# Who we are...

**FIBER OPTIC CENTER** INC.

*Fiber Optic Center is pleased to provide you with Volume 1 of our first print catalogue, detailing many of the products and supplies that we offer. The next version will include more product categories, such as splicing equipment, connectors, cable/fiber and also a section of specialty products.*

*We stock a wide range of fiber-related and other high technology items. Like many companies that thrive over a number of years, we have carved out several areas of specialization and expertise for which we are known as the industry leader. Many catalogue items can be purchased from other suppliers, but a number of important factors make us the preferred choice for many of the world's fiber professionals.*

**These include, but are not limited to:**

- **Our tenacious emphasis of offering only the highest quality products that have superior value, as opposed to selling lesser quality, cheaper alternatives and knock-offs, which, more likely than not, result in a greater need for reworks, missed delivery schedules, repair/upkeep costs, etc.**

- **Decades of practical cable assembly production experience by our technical experts who work daily with our customers improving their processes. We do not produce cable assemblies in-house, although our traveling technical personnel have set up termination lines throughout North, Central and South America, as well as several locations in the Far East, Eastern and Western Europe, the United Kingdom and Ireland.**

- **We offer the most advanced suite of fully automated and semi-automated polishing and termination equipment for fiber and cables, much of it (such as the Sagitta Comet and AngstromPol BFP polisher) available exclusively from Fiber Optic Center.**

- **Over 27 years of sourcing components, materials, equipment and supplies; We know what is available and where to get it, even if it's not already a stock item.**

- **We have the world's largest inventory of custom-hole-size SMA and other connectors, for use with large core fiber, with over 40 different hole sizes in stock.**

- **Emphasis on specialty applications, such as medical, spectroscopy, laser delivery, industrial, sensing, oil and gas, broadcasting, military and research, as well as telecom, datacom and CATV.**

- **Over twenty years as North American sales agent for SG Controls of Cambridge, England, the leading manufacturer of specialty fiber making equipment and systems. We are one of very few companies worldwide who can provide full turnkey optical fiber manufacturing facilities for specialty fiber, as well as standard telecommunication fibers. Specialty fiber companies, U.S. government and military research labs, and universities, have turned to SG Controls and Fiber Optic Center, because together, we provide the best combination of quality equipment, setup and subsequent support.**

- **Availability of adhesives, and specialty and optical monomers, oligomers, and polymers, in custom viscosities, colors, packaging and other features.**

- **Industry-leading customer service aimed at making the business part of high tech as friendly and painless as possible.**

Thank you for your consideration of Fiber Optic Center as the supplier for your fiber and other high tech needs. We hope you find our new catalogue useful, and welcome your suggestions to make it even better.
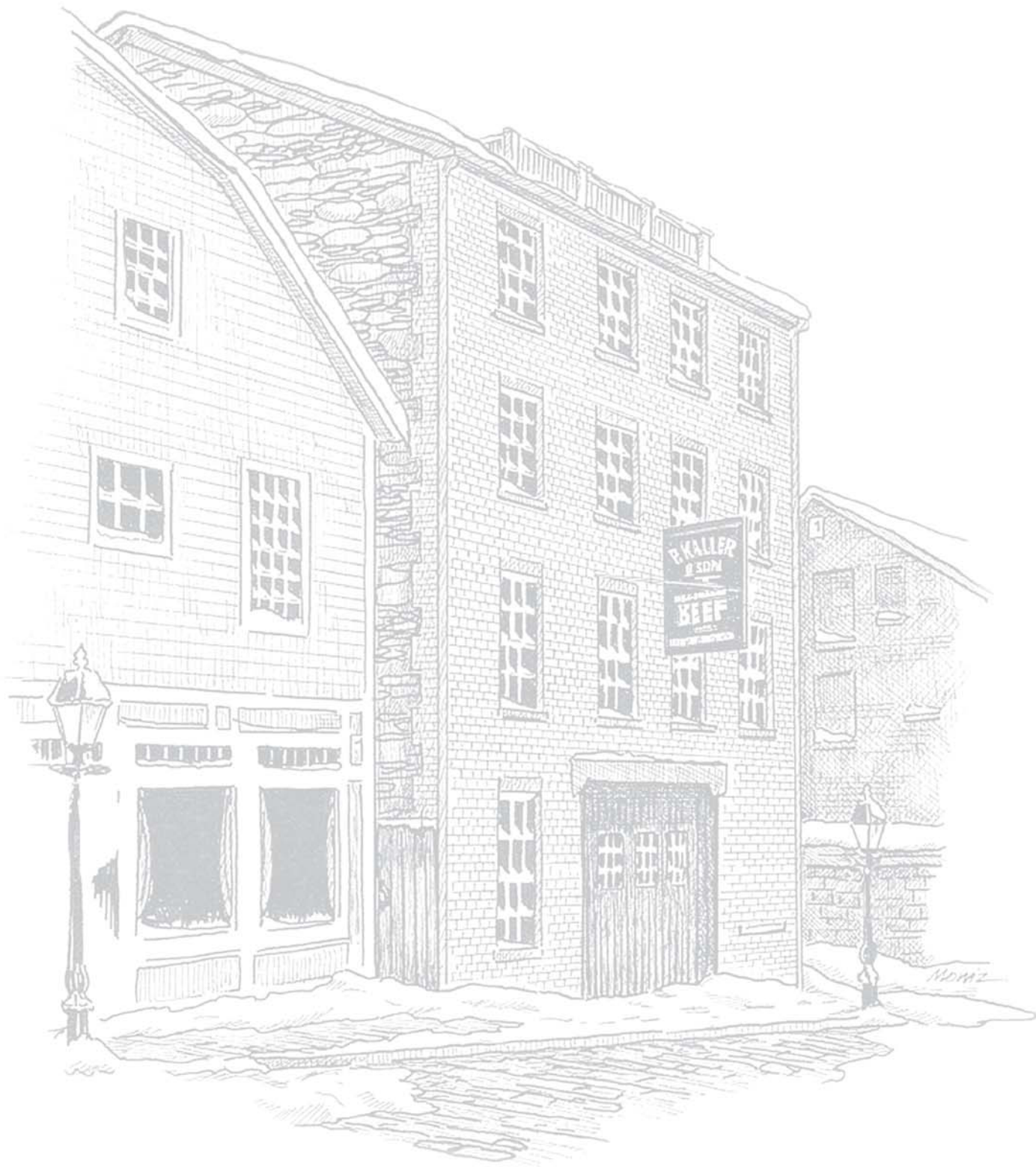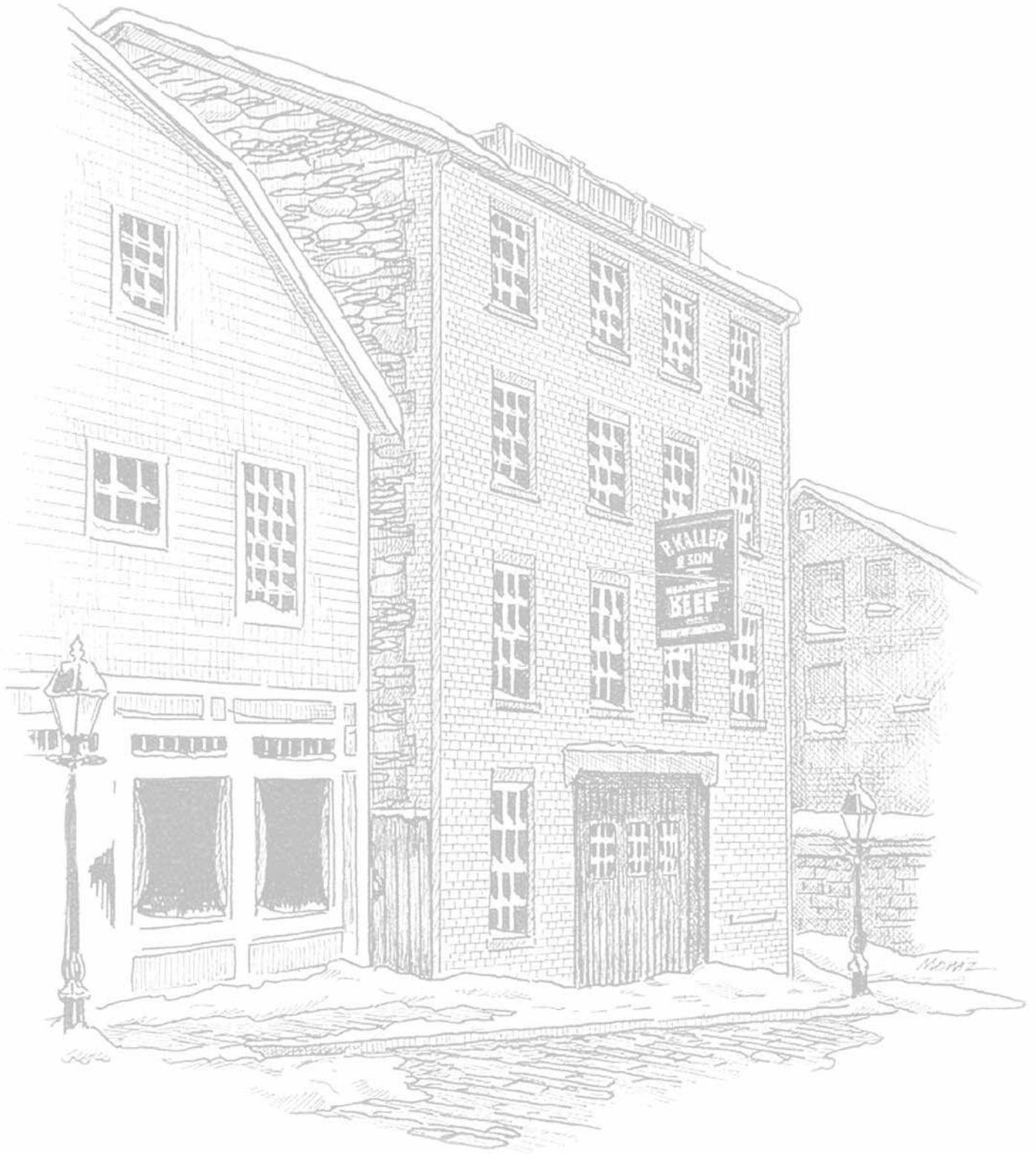
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**www.focenter.com**

# Table of Contents

Fiber Optic Center's Volume 1 catalog caters to fiber optic assembly houses, large and small, as well as installers and field technicians. The four tabs split the information up into four major sections and are color coded to match the pages within the section. Each section is broken down into categories that are listed on the front page of each tab, with a brief description of each section on the tab's reverse side. Each page within a section has the section listed on the outer edge, along with the category and category page number listed at the bottom.

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# Future Sections

In the interest of getting the first release of our catalog out as soon as possible, the following sections were not included, but are to be added in the near future. However, we have in-depth technical knowledge on all these items, and they are all currently available. If you would like more information please contact us at 800 473-4237, 508 992-6464 or visit our website at www.focenter.com.

## Splicing & Acessories

**Fusion Splicers**

Single Fiber Core Alignment
Single Fiber V-Groove Alignment
Multi-Fiber V-Groove Alignment

**Automated Fiber Prep**

Strip & Cleave Systems
Window Stripping
Fiber Re-coaters
Specialty Systems

**Cleavers**

High Precision Cleavers
Pocket Cleavers

**Splice Protection Sleeves**

**Mechanical Splices**

## Interconnect Components

**Standard Connectors, Adapters & Receptacles**

Amphenol
Seikoh Giken
Molex
Senko
Fibersource

**SMA Connectors & Accessories**

905 & 906 SMA Connectors
High Power SMA Connectors
Accessories

**Quick Termination Connectors**

AFL Tele. FAST Connector
AFL Tele. FUSE Connect

**Industrial & Broadcast Ruggedized Connectors**

COTS M83522
COTS M29504/14/15
SMPTE 358M
TFOCA II
Molex LC2 Connectors

**Attenuators**

Fixed Attenuators
Variable Attenuators
Dynamic Attenuators / Power Limiters

**Splitters & Couplers**

1x2 & 2x2 Couplers
Tree Couplers
PLC Optical Splitters
WDMs

**Terminators, Fuses & Loopbacks**

Terminators
Optical Fuses
Loopbacks

## Fiber & Cable Management

**Fiber**

Standard Fiber
Specialty Fiber

**Cable**

Indoor
Indoor / Outdoor
Outdoor

**Managements**

Cabinets & Enclosures
Rack Mounts
Reels, Guides & Cable Ties
Breakout & Fanout kits
Pulling Eyes
Furcation Tubing

## Specialty Products

**AngstromLink Optical Polymers**

**Adhera Rare Earth Solder**

**AngstromSphere Silca Spheres**

**Fiber Manufacturing Equipment**

SG Controls
Showmark Fiber Spooling Equipment

**Vitrocom Glass Capillaries & Tubing**

**Ocean Optics Spectrometers**

**The Light Brigade Educational Materials**

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# Quality & FIBER OPTIC CENTER INC.

**Fiber Optic Center Quality Policy**

Since its inception in January of 1992, Fiber Optic Center, Inc. has provided fiber professionals and the fiber industry with only the highest quality components, systems and technology.  Our supplier selection process begins with the long term commitment of the supplier to the product line.

From there, we look for:

- *Strong, demonstrated quality programs in place*
- *Innovative products*
- *Aggressive new product pipeline*
- *On-going technical support*
- *Customer service*

Fiber Optic Center, in turn, makes a long-term commitment to the supplier, and offers the entire product line, as opposed to cherry picking the largest selling or most popular part numbers.  The long term nature of the relationships with our suppliers often means that we have first hand knowledge and history of quality issues related to specific parts, and close relationships with individuals at all levels within the supplier's company.

Because we do not manufacture any products on site, we do not perform our own quality testing.  We are dependent on the manufacturer of the particular item to have appropriate quality procedures in place.  Our certificates of conformance are based on corresponding certification from the manufacturer, rather than direct inspection in our facility.  The suppliers of most products that we sell are ISO 9000 certified.  When problems have arisen, formal Corrective Action Reports are completed, and recommendations are implemented by the supplier. The result is that we have few quality issues with the products we sell.

For the few items where we actually do some value added work (e.g., loading adaptors into patch panels), we have written quality procedures and forms in place, and trained quality inspectors who are not the production people.

For particular customers who require quality procedures that go beyond our standard efforts, we have put in place the required steps, along with equipment and personnel as needed, to meet these specialized quality standards.

Please contact us if you have questions or need further information.  Thank you for your consideration.

Respectfully,

*Neal Weiss*

**Neal Weiss**
President, Fiber Optic Center
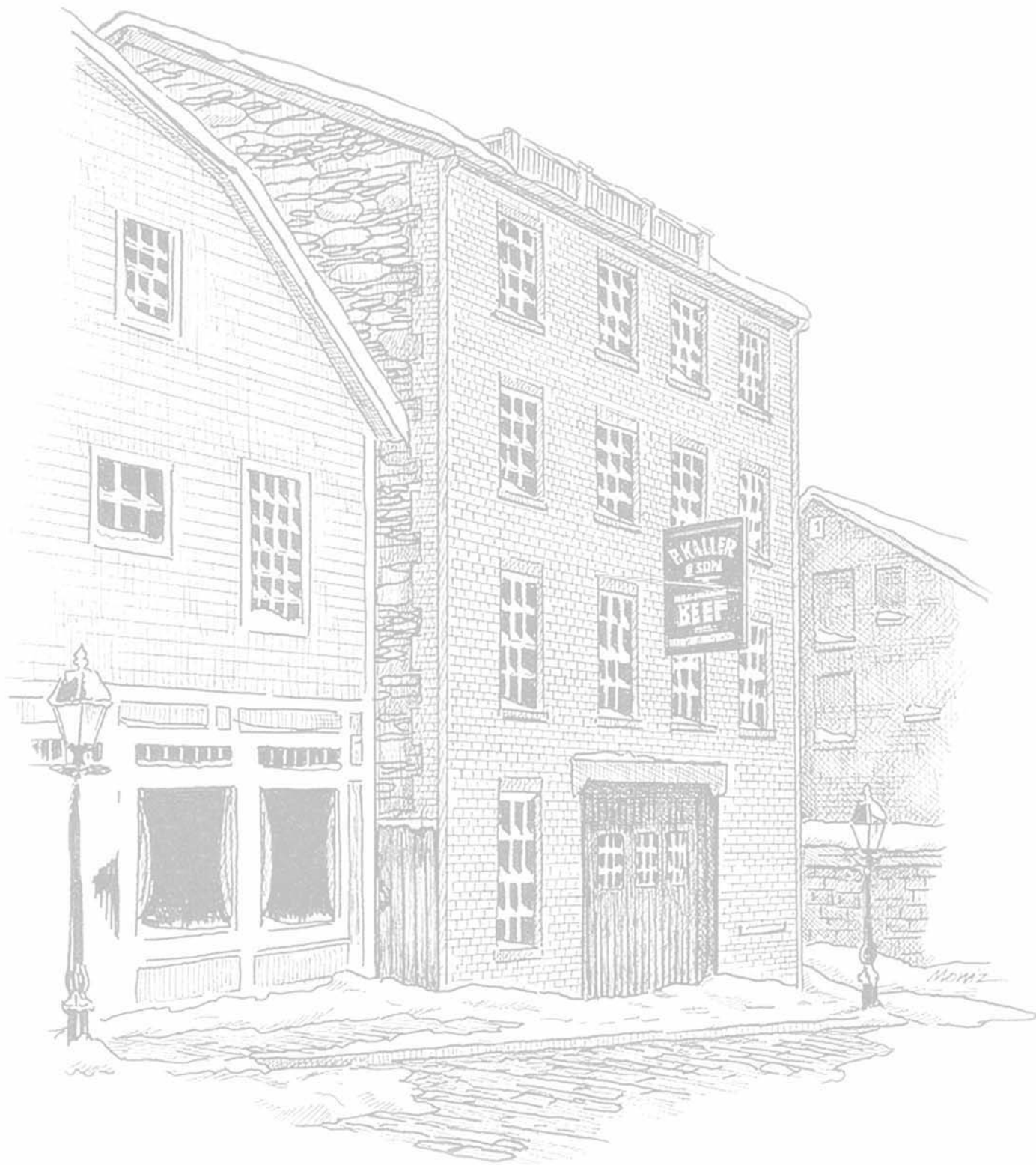nweiss@focenter.com
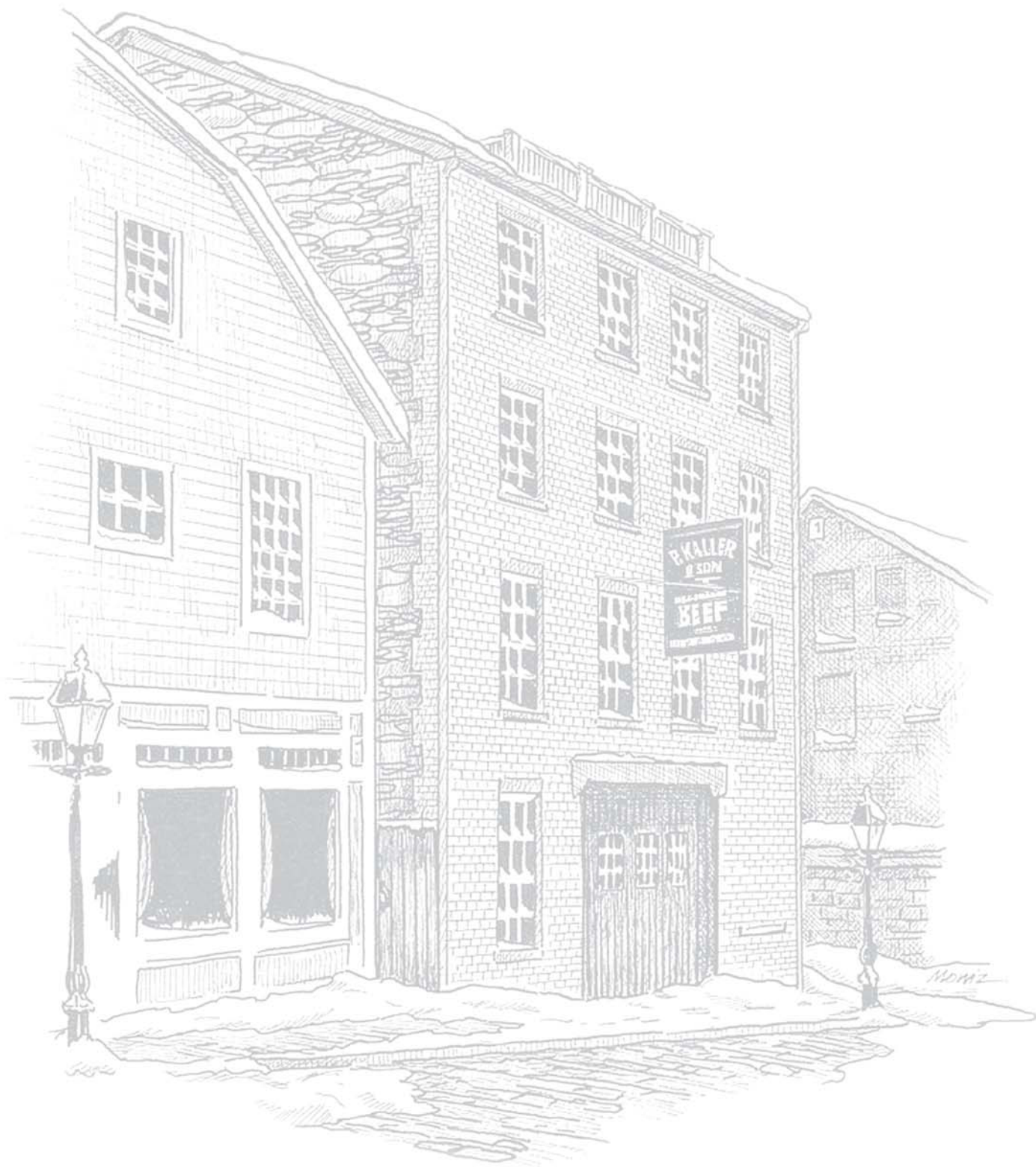
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# Lapping Film

### ÅngströmLap®

**The Most Widely Used Lapping Film in the World**

Fiber Optic Center, the global supplier of ÅngströmLap, is an industry leader in developing high performance, cost effective polishing processes for some of the largest assembly houses in the world.  We have or can produce an ÅngströmLap single mode or multimode process which is tailor-made for any machine, connector style and ferrule material on the market today, including multi-fiber MTs and MT-RJs.  If you are having trouble with your process, our in-house process engineers can offer assistance at any time over the phone or can make on-site visits when necessary.

One of the most important decisions a cable assembly production, or process manager will make, is which lapping film to use.  Without a consistent lapping film, production costs can not be controlled.  Instead of quickly and efficiently fulfilling work orders, costly reworks will eat up both time and resources.  Lapping film that only lasts a few cycles before it needs to be thrown away can also lead to a much higher per termination cost than a film that lasts up to 10, 20 or 30 cycles.  Our SEQUOIA Diamond films are designed to last well over 10 cycles.

Achieving consistent results that meet the demanding technical specifications for single mode systems requires the optimization of many factors throughout the termination and testing process.

These include:

- **suitable single mode fiber**
- **suitable epoxy**
- **proper mixing, application & curing of epoxy**
- **connector quality & tolerances**
- **pressure & time of polishing at each step**
- **lapping film quality & consistency**
- **lapping film grit sizes & materials**
- **polishing solutions**
- **adapter quality & tolerances**
- **calibration & quality of test instruments and reference cables**
- **test methods & conditions**
- **overall cleanliness**
- **specific cleaning procedures**

FOC can supply detailed polishing instructions for most commercially available fiber optic polishing machines.  Please contact us for details.

Fiber Optic Center offers lapping film in the following areas;

- **Diamond Film**
- **Final Film**
- **Aluminum Oxide Film**
- **Silicon Carbide Film**
- **Abrasive, Coated Flock Pile Film**
- **Cleaning Film (Non-abrasive Flock Pile Film)**
- **Seikoh Giken Film**

### Special Note on PSA - Pressure Sensitive Adhesive

Pressure Sensitive Adhesive is only recommended when it is completely necessary.  Once the film is stuck to the polish surface, it cannot be removed and reused.  The adhesive also creates a potential and likely problem of debris adhering to the film that cannot be removed.  Any debris that comes in contact with the fiber may cause a scratch.  PSA will also increase the cost of the lapping film.

The films shown here are typical stock items.  However, if you do not find the right size/material configuration, including center holes or PSA, to fit your application, we may already have it or we can have it manufactured for you.  Please contact Fiber Optic Center with any request.

**CONSUMABLES**

# Diamond Film

**CONSUMABLES**

**ÅngströmLap** ®

**SEQUOIA™ Long Life Diamond Film**

Diamond lapping films cut and polish the hard ceramic ferrules and the softer fibers close to the same rate, easily controlling fiber undercut or protrusion.  Diamond also helps assure the ferrule geometries meet the Telcordia GR 326 version 3 specifications, and leave the ferrule in a condition ready for the final polish film.  Diamond is always recommended for the intermediate steps of machine polishing of single mode or multimode ceramic connectors, and for single mode hand polishing of ceramic connectors.  When stopping at a diamond of 1um or less, a good surface finish results with great geometries, but with a return loss of -35 dB at best.  If back reflection of -55 dB or better is required, see our Final Polish Films.

SEQUOIA is the longlife diamond film which offers twice the working life of standard diamond films, therefore cutting your overall diamond lapping film consumables cost in half. During the manufacturing process, proprietary quality control steps are implemented, ranging from raw materials selection to final QC and testing.  SEQUOIA is clearly at a level above all other diamond films available today.

**ÅngströmLap SEQUOIA Diamond Film - Sold per sheet**

| Grit | 2" Disk | 2.75" Disk | 110mm Disk | 4" Disk | 4" Disk PSA | Color |
|------|---------|------------|------------|---------|-------------|-------|
| 30 µm | -- | -- | -- | D30RGO403N1 | D30AR403P1 | Green |
| 15 µm | -- | -- | -- | D15RGO403N1 | D15RGO403P1 | Orange |
| 9 µm | -- | -- | D9AT1103N1 | -- | D9RRE403P1 | Blue |
| 5 µm | D5BF203N1 | D5BF273N1 | D5BF110N1 | D5BF403N1 | D5BF403P1 | Brown |
| 3 µm | D3BF203N1 | -- | D3AT1103N1 | D3AT403N1 | D3AT403P1 | Pink |
| 1 µm | D1CT203N1 | D1CT273N1 | D1CT1103N1 | D1CT403N1 | D1CT403P1 | Purple |
| 1 um* | -- | D1KT273N1 | D1KT1103N1 | D1KT403N1 | -- | Purple |
| 0.5 µm | -- | -- | D05CF1103N1 | D05CF403N1 | D05FN403P1 | Light Grey |

| Grit | 5" Disk | 3x4" Sheet | 6x6" Sheet | 8" Disk | 9x11" Sheet | Color |
|------|---------|------------|------------|---------|-------------|-------|
| 30 µm | D30AR503N1 | -- | D30AR663N1 | D30AR803N1 | D30AR913N1 | Green |
| 15 µm | D15RGO503N1 | -- | D15AR663N1 | D15RGO803N1 | -- | Orange |
| 9 µm | D9AT503N1 | -- | -- | -- | D9AT913N1 | Blue |
| 5 µm | D5BF503N1 | D5RGO343N1 | D5BF663N1 | D5BF803N1 | D5BF913N1 | Brown |
| 3 µm | D3AT503N1 | D3RRE343N1 | D3AT663N1 | -- | D3RGE913N1 | Pink |
| 2 um | D2CT503N1 | -- | -- | -- | -- | Tan |
| 1 µm | D1CT503N1 | D1RGO343N1 | D1CT663N1 | D1CT803N1 | D1CT913N1 | Purple |
| 1 um* | D1KT503N1 | -- | D1KT663N1 | -- | -- | Purple |
| 0.5 µm | D05CF503N1 | -- | -- | -- | D05CF913N1 | Light Grey |

* Second generation SEQUOIA film

The films shown here are typical stock items.  However, if you do not find the right size/material configuration, including center holes or PSA, to fit your application, we may already have it or we can have it manufactured for you.  Please contact Fiber Optic Center with any request.

# Final Polish Film

## Final Polish Film

When a return loss of -55dB or better is needed with a controlled amount of undercut or protrusion, a special final polish film is required.  This film maintains the geometry of the ferrule and improves the return loss and surface quality.

The following final polish films use silicon dioxide material and will polish the ceramic ferrule and glass fiber near the same rate.  These films require only distilled water, and do not need messy slurries to meet back-reflection of -55dB or better for UPC, and fiber heights compliant with IEC Telcordia specifications.

Ångström*Lap* SEQUOIA FPF is the latest final polish film to come from the Ångström*Lap* line of films.  It was developed to reduce single mode assembly production consumables cost while maintaining the most stringent manufacturing processes in the industry; therefore, lot-to-lot product consistency is assured, enabling you to achieve uniform precision polishes, keeping yields at their maximum.  SEQUOIA FPF outperforms the rest, at a price that's lower than you would expect.

### Single Mode Final Polish Films

| Type | 2" Disk | 2.75" Disk | 4" Disk | 5" Disk | 6x6" Sheet |
|------|---------|------------|---------|---------|------------|
| Ångström*Lap* SEQUOIA FPF | -- | SEQFPF273N100 | SEQFPF403N100 | SEQFPF503N100 | SEQFPF663N100 |
| Ångström*Lap* GOLD | ALG15XY203N100 | ALG15XY273N100 | ALG15XY403N100 | ALG15XY503N100 | ALG15XY663N100 |
| NTT FOS-01 | FOS-01/2 | -- | FOS-01/4 | FOS-01 | FOS-01/6X6 |
| NTT FOS-22 | -- | -- | -- | FOS-22 | -- |
| Seikoh Giken XF | -- | XF07 | KJW101530G | XF5D | -- |
| Seikoh Giken HF | -- | HF07 | HF4D | HF5D | -- |

The above films are recommended for optimum, single mode and multimode performance but for a more economical, multimode process, the following Aluminum Oxide films from Ångström*Lap* may be substituted as final films.

### Multimode Final Polish Films

| Grit | 2" Disk | 2.75" Disk | 3x6" Sheet | 3x6" Sheet PSA | Color |
|------|---------|------------|------------|----------------|-------|
| 0.5 µm | -- | AO05F273N100 | AO05F363N100 | AO05F363P100 | White |
| 0.3 µm | CA03F203N100 | CA03T273N100 | CA03F362N100 | CA03T363P100 | Light Blue |

| Grit | 4" Disk | 4" Disk PSA | 5" Disk | 5" Disk PSA | Color |
|------|---------|-------------|---------|-------------|-------|
| 0.5 µm | AO05F403N100 | AO05F403P100 | AO05F503N100 | AO05F503P100 | White |
| 0.3 µm | CA03F402N100 | CA03F402P100 | CA03F502N100 | CA03T503P100 | Light Blue |

| Grit | 110mm Disk | 6x6" Sheet | 8" Disk | 9x11" Sheet | 12" Disk PSA | Color |
|------|------------|------------|---------|-------------|--------------|-------|
| 0.5 µm | -- | -- | AO05F803N100 | AO05F913N100 | -- | White |
| 0.3 µm | CA03F1102N100 | CA03T663N100 | CA03F802N100 | CA03T913N100 | CA03T123P50 | Light Blue |

The films shown here are typical stock items.  However, if you do not find the right size/material configuration, including center holes or PSA, to fit your application, we may already have it or we can have it manufactured for you.  Please contact Fiber Optic Center with any request.

**CONSUMABLES**

Specifications may change without notice

# Aluminum Oxide Film

### ÅngströmLap®

Aluminum Oxide Film

When diamond film is not needed, like in many multimode applications, aluminum oxide is recommended.  Some aluminum oxides can even be used as the final polish.  The 0.5um and 0.3um will produce return losses of -50 dB or better, but because they cut the glass at a much quicker rate than the ceramic, undercut may occur.  See Final Polish Films for the best final polish film options and see Silicon Carbide Films for more aggressive epoxy and glass removal.

**ÅngströmLap Aluminum Oxide Film - Sold in packs of 100 - 12" film in packs of 50**

| Grit | 2" Disk | 2.75" Disk | 3x6" Sheet | 3x6" Sheet PSA | Color |
|---|---|---|---|---|---|
| 30 µm | -- | -- | AO30F363N100 | AO30F363P100 | Dark Purple |
| 16 µm | -- | -- | AO16F363N100 | -- | Orange |
| 12 µm | -- | AO12F273N100 | AO12F363N100 | AO12F363P100 | Red |
| 9 µm | -- | -- | AO9F363N100 | -- | Green/Blue |
| 5 µm | -- | -- | AO5T363N100 | AO5T363P100 | White |
| 3 µm | -- | -- | AO3T363N100 | AO3T363P100 | Yellow |
| 1 µm | -- | -- | AO1T363N100 | AO1T363P100 | Light Pink |
| 0.5 µm | -- | AO05F273N100 | AO05F363N100 | AO05F363P100 | White |
| 0.3 µm | CA03F203N100 | CA03T273N100 | CA03F362N100 | CA03T363P100 | Light Blue (F) Light Green (T) |

| Grit | 4" Disk | 4" Disk PSA | 5" Disk | 5" Disk PSA | Color |
|---|---|---|---|---|---|
| 30 µm | AO30F403N100 | AO30F403P100 | AO30F503N100 | -- | Dark Purple |
| 16 µm | AO16F403N100 | AO16F403P100 | AO16F503N100 | AO16F503P100 | Orange |
| 12 µm | -- | AO12F403P100 | AO12F503N100 | AO12F503P100 | Red |
| 9 µm | AO9F403N100 | AO9F403P100 | AO9F503N100 | AO9F503P100 | Green/Blue |
| 5 µm | AO5T403N100 | AO5T403P100 | AO5T503N100 | AO5T503P100 | White |
| 3 µm | AO3T403N100 | AO3T403P100 | AO3T503N100 | AO3T503P100 | Yellow |
| 1 µm | AO1T403N100 | AO1T403P100 | AO1T503N100 | AO1T503P100 | Light Pink |
| 0.5 µm | AO05F403N100 | AO05F403P100 | AO05F503N100 | AO05F503P100 | White |
| 0.3 µm | CA03F402N100 | CA03F402P100 | CA03F502N100 | CA03T503P100 | Light Blue (F) Light Green (T) |

| Grit | 110mm Disk | 6x6" Sheet | 8" Disk | 9x11" Sheet | 12" Disk PSA | Color |
|---|---|---|---|---|---|---|
| 30 µm | -- | -- | AO30F803N100 | AO30F913N100 | AO30F123P50 | Dark Purple |
| 16 µm | -- | AO16F663N100 | AO16F803N100 | AO16F913N100 | -- | Orange |
| 12 µm | -- | -- | AO12F803N100 | AO12F913N100 | AO12F123P50 | Red |
| 9 µm | -- | -- | -- | AO9F913N100 | AO9F123P50 | Green/Blue |
| 5 µm | -- | -- | AO5T803N100 | AO5T913N100 | AO5T123P50 | White |
| 3 µm | AO3T1103N100 | AO3T663N100 | AO3T803N100 | AO3T913N100 | AO3T123P50 | Yellow |
| 1 µm | -- | AO1T663N100 | AO1T803N100 | AO1T913N100 | AO1T123P50 | Light Pink |
| 0.5 µm | -- | -- | AO05F803N100 | AO05F913N100 | -- | White |
| 0.3 µm | CA03F1102N100 | CA03T663N100 | CA03F802N100 | CA03T913N100 | CA03T123P50 | Light Blue (F) Light Green (T) |

**CONSUMABLES**

# Silicon Carbide Film

### ÅngströmLap ®
### Silicon Carbide Film

As a more aggressive material, Silicon Carbide is often recommended over Aluminum Oxide for epoxy and glass removal, and is not commonly used for the later steps in the polishing process.

### ÅngströmLap Silicon Carbide Film - Sold in packs of 100 - 12" film in packs of 50

| Grit | 2" Disk | 2.75" Disk | 3x6" Sheet PSA | Color |
|---|---|---|---|---|
| 16 µm | -- | -- | SC16F363P100 | Purple/Grey |
| 9 µm | -- | SC9T273N100 | SC9T363P100 | Blue/Grey |
| 5 µm | -- | -- | -- | Yellow/Grey |
| 3 µm | SC3F203N100 | -- | SC3F363P100 | Grey |
| 1 µm | SC1F203N100 | -- | SC1F363P100 | Grey |

| Grit | 4" Disk | 4" Disk PSA | 5" Disk | 5" Disk PSA | Color |
|---|---|---|---|---|---|
| 30 µm | SC30F403N100 | SC30F403P100 | SC30F503N100 | SC30F503P100 | Green/Grey |
| 16 µm | SC16F403N100 | SC16F403P100 | SC16F503N100 | SC16F503P100 | Purple/Grey |
| 9 µm | SC9T403N100 | SC9T403P100 | SC9T503N100 | SC9F503P100 | Blue/Grey |
| 5 µm | SC5F403N100 | SC5F403P100 | SC5F503N100 | SC5F503P100 | Yellow/Grey |
| 3 µm | SC3F403N100 | SC3F403P100 | SC3F503N100 | SC3F503P100 | Grey |
| 1 µm | SC1F403N100 | -- | SC1F503N100 | -- | Grey |
| 0.5 µm | -- | -- | SC05F503N100 | -- | Grey |

| Grit | 6x6" Sheet | 8" Disk | 9x11" Sheet | 12" Disk PSA | Color |
|---|---|---|---|---|---|
| 40 µm | -- | SC40F803N100 | -- | -- | Green/Grey |
| 30 µm | SC30F663N100 | SC30F803N100 | SC30F913N100 | SC30F123P50 | Green/Grey |
| 16 µm | SC16F663N100 | SC16F803N100 | SC16F913N100 | SC16F123P50 | Purple/Grey |
| 9 µm | -- | SC9T803N100 | SC9T913N100 | -- | Blue/Grey |
| 5 µm | SC5F663N100 | SC5F803N100 | SC5F913N100 | SC5F123P50 | Yellow/Grey |
| 3 µm | -- | SC3F803N100 | -- | SC3F123P50 | Grey |
| 1 µm | -- | SC1F803N100 | -- | SC1F123P50 | Grey |

The films shown here are typical stock items. However, if you do not find the right size/material configuration, including center holes or PSA, to fit your application, we may already have it or we can have it manufactured for you. Please contact Fiber Optic Center with any request.

**CONSUMABLES**

Specifications may change without notice

# Flock Pile Abrasive & Cleaning Film
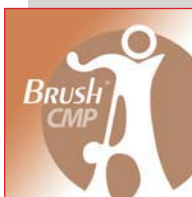
## Ångström*Brush*™ CMP

### Chemical Mechanical Polish Abrasive Flock Pile Film

The Ångström*Brush* CMP (chemical mechanical polish) system is an innovative system of polishing, that can polish irregular glass surfaces to a mirror finish consistently, time after time. This system uses an abrasive pad with 3-5/mm fibers coated with aluminum oxide, silicon carbide, and cerium oxide. These tiny fibers behave like a smaller, less aggressive abrasive, because they are allowed to move away from, or around the work surface. It resists being torn by sharp objects that protrude from some work surfaces. When used in conjunction with our specialty cleaning pads, this system provides controlled fiber protrusion and excellent surface quality.  Other polishing systems for creating protrusion on a glass-filled polymer ferrule are available that include the use of slurries with films.

### Ångström*Lap* Abrasive Flock Pile Film - Sold in packs of 50

| Grit | Material | 5" Disk | 5" Disk PSA | Color |
|------|----------|---------|-------------|-------|
| 16 µm | AlOx | AO16MFPS502N50 | -- | Brown |
| 9 µm | SC | SC9MFPS502N50 | -- | Brown |
| 5 µm | AlOx | AO5PBN502N50 | -- | Brown |
| 3 µm | SC | -- | SC3PWBH502P50 | Grey |
| 2 µm | AlOx | AO2PBN502N50 | -- | Brown |
| 1 µm | AlOx | -- | AA1MFPS502P50 | Brown |
| 1 µm | CeOx | CE1PBN502N50 | CE1MFPS502P50 | Brown |

## Ångström*Brush*™

### Non-Abrasive Flock Pile Cleaning Film

Ångström*Brush* cleaning films can be used in between each polishing step or simply after the final polish step.  The tiny fibers on these multiuse films help remove particles from the connector end face and decrease chances of cross contamination, thus increasing finish quality and overall process yield.

### Ångström*Lap* Abrasive Flock Pile Film - Sold in packs of 50

| Type | 5" Disk | 6x6" Sheet | 12" Disk |
|------|---------|------------|----------|
| Ångström*Brush* | ABR60NC502N1 | ABR60NC662N1 | -- |
| Ångström*Brush* w/ PSA* | ABR60NC502P1 | ABR60NC662P1 | ABR60NC1202P1 |

The films shown here are typical stock items.  However, if you do not find the right size/material configuration, including center holes or PSA, to fit your application, we may already have it or we can have it manufactured for you.  Please contact Fiber Optic Center with any request.

**CONSUMABLES**

# Seikoh Giken Film

The 5" disk is the standard size for the Seikoh Giken SFP-550, SFP-520, SFP-510, SFP-500, the Seiko Instruments OFL-15 and OFL-16 machines and some other fiber polishing machines.

The 4" disk is the standard size for the Seikoh Giken SFP-100D.

The 2.75" disk is the standard size for the Seikoh Giken SFP-70D and SFP-70D2 polishing machines.

## Standard Polishing Film

| Grit | 5" Disk | 4" Disk | 2.75" Disk | Color |
|------|---------|---------|------------|-------|
| **Diamond** | | | | |
| 9 µm | DR5D-9u | DR4D-9u | DR07-9u | Purple |
| 5 µm | DG5D-5u | DG4D-5u | -- | Orange |
| 3 µm | DH5D-3u | DH4D-3u | DH07-3u | Lime Green |
| 1.5 µm | DI5D-1.5u | DI4D-1.5u | DI07-1.5u | Yellow |
| **Final Film** | | | | |
| -- | XF5D | HF4D | HF07 | Clear |
| **Aluminum Oxide** | | | | |
| 5 um | AR5D | -- | AR07 | White |
| 1 um | SF5D | -- | SF07 | White |
| **Silicon Carbide** | | | | |
| 30 um | GA5D | GA10 | GA07 | Dark Green |
| **Cleaning Film** | | | | |
| -- | CF5D | CF4D | CF07 | -- |
| **Spacer Film** | | | | |
| 50 um | 15303-5 | SP10-005 | SP07-005 | -- |
| 25 um | 15303-2.5 | -- | -- | -- |

## MT Polishing Film

| Grit | Part Number | Material | Description | Color |
|------|-------------|----------|-------------|-------|
| -- | BR5D | -- | MT Middle Polish (sponge material) | Brown |
| 15 µm | GC5D | Silicon Carbide | Adhesive Removal | Dark Green |
| 1.5 µm | GI5D | Silicon Carbide | First Polish | Grey |
| -- | GK5D | Silicon Carbide | Second Polish | -- |
| -- | BX5D | -- | MT Final Polish (felt) | Black |
| 0.05 µm | AO5D | Aluminum Oxide | MT Final Polish | Yellow |

## Polishing Oil & Slurry

| Part Number | Description | Part Number | Description |
|-------------|-------------|-------------|-------------|
| PL50/1 | Polishing Oil, 500cc Bottle. | PL-AMT | Medium MT Polishing Slurry, 200g Bottle. |
| PL-MMT | Coarse MT Polishing Slurry, 200g Bottle. | PL-MT | Fine MT Polishing Slurry, 80g Bottle. |
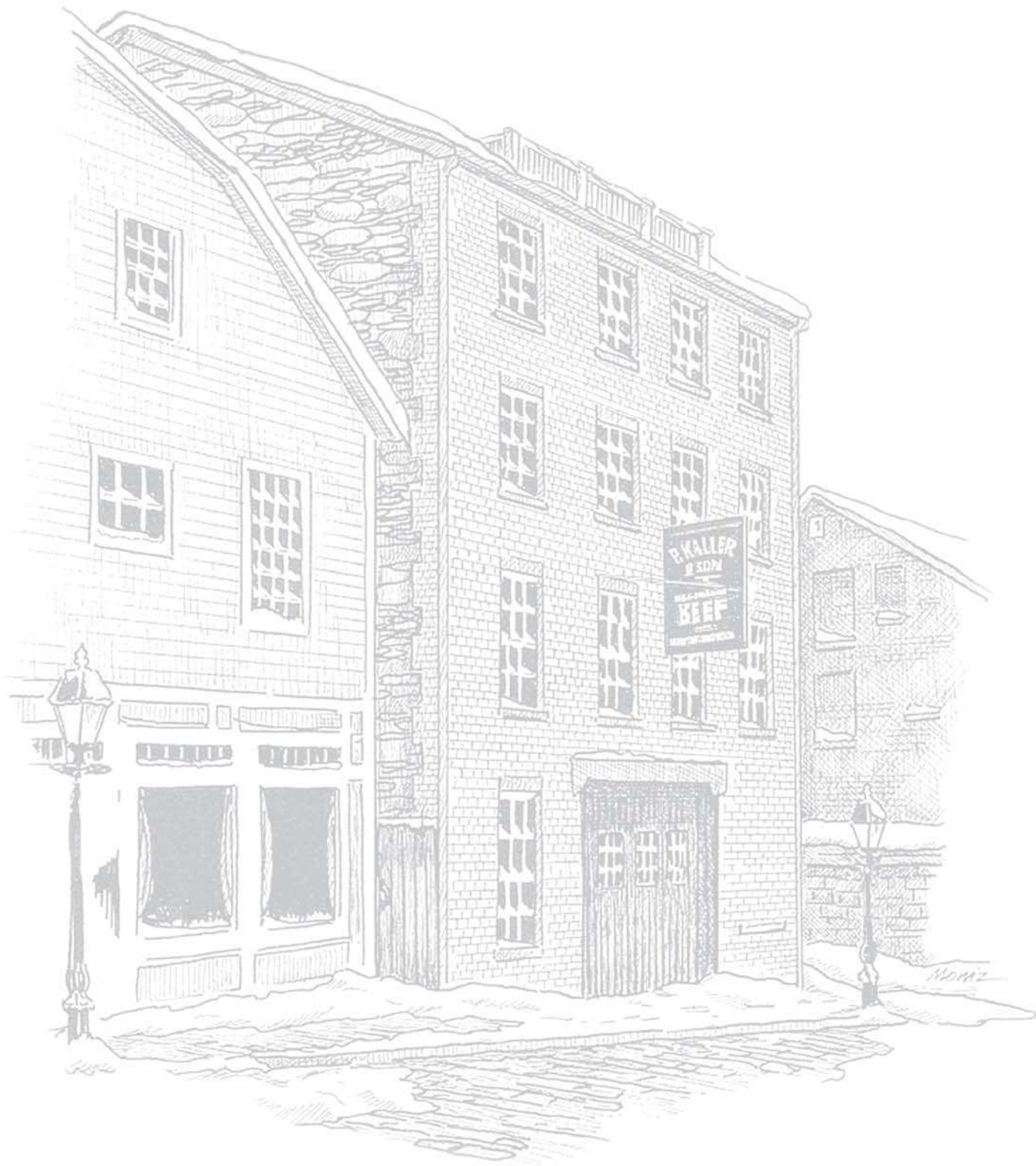
**CONSUMABLES**

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# Epoxy & Adhesives
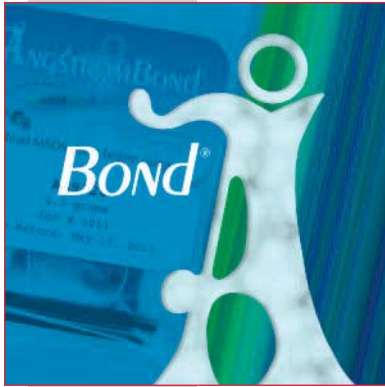
**Ångström**Bond ®

### Advanced Polymers for High-Tech Applications

Choosing the correct adhesive for an application is critical and ÅngströmBond ® premium quality adhesives offer a wide range of solutions for any requirement.  Adhesives are often generalized and end up being used in the wrong application resulting in disastrous effects. One adhesive does not work well in all applications.

ÅngströmBond ® offers its own line of single and multi component specialty adhesive systems as well as systems from your favorite adhesive manufacturers.  Most material can be supplied in easy to use 2-part packets, premixed and frozen syringes or cartridges, jars, vials, quarts, gallons or other specialty packing as required.

### 2-Part Packets (bi-packs)

Small, 2-part packets promote minimal waste but are also key to ensuring proper mix ratios, as mix ratio is essential to epoxy performance.  If the ratio is off by even a small amount, failures may occur immediately or at anytime during operation.  All our packaging maintains a strict mix ratio of at least +/- 1%.  Our packaging materials are also of the highest quality to ensure that the adhesives will remain consistent throughout their shelf life.

### Premixed & Frozen

Our premixed and frozen adhesives loaded in syringes or cartridges are accurately pre-weighed, de-aired and flash frozen, so you do not have to do it.  All of these steps ensure maximum adhesive performance, while flash freezing guarantees the maximum working time.  Using premixed and frozen adhesives greatly reduces the potential for errors, and the end result is simply a safer material that yields increased quality at lower costs.

### Epoxy Dispensing Machines

When using an automatic dispensing machine, further costs can be saved and product consistency improved with either the pre-weighed packets or the premixed and frozen packages.  A system can be devised which can reduce operator variability to ensure the same amount of adhesive is injected each time.  The unit will also decrease the repetitive motion that can sometimes lead to Carpal Tunnel Syndrome.   Premixed and frozen can be packaged in an automatic cartridge that fits your dispensing machine, thus adding to your savings.

### A Solution to Any & All Epoxy Related Problems

Our goal is to supply the best possible material for your application.  By using ÅngströmBond ® supplied material, you can minimize the typical adhesive related problems outlined below.

- Defective Epoxy
- Wrong Epoxy for the Application
- Incorrect Mix Ratio by Packager
- Incorrect Mix Ratio by User
- Expired Shelf Life
- Use Beyond Working Life
- Inappropriate Cure Schedule

- Inadequate Packaging Affects Chemistry
- Improper Storage (temp, light)
- Incomplete Dispensing into Substrate
- Inappropriate or Defective Dispensing Equipment
- Improper Cleaning of Epoxy Work Surfaces
- Skin Reactions (Dermatitis)
- Unavailability - Not in Stock

Fiber Optic Center offers Epoxies & Adhesives in the following areas.  Please contact us with your application and we will be happy to find you the appropriate material.

- **Room Temperature Cure**
- **Extended Use / Heat Cure**
- **Quick Cure Field Termination Adhesives**
- **UV Cure Adhesives**
- **Specialty Adhesives**

**CONSUMABLES**

# Room Temperature Cure Epoxy

**ǍNGSTRÖM***Bond* ®

**Two-Part Room Temperature Cure Epoxy**

Low stress epoxies that can be cured overnight at room temperature or faster with mildly elevated temperatures. There is a room temperature cure epoxy excellent for any type of termination.

### Single Mode and Multimode Terminations

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | | |
|---|---|---|---|---|---|---|
| | | | | 25°C | 65°C | 90°C |
| AB9112-2.5G* | Dark Blue | 2000 cps | 40 Minutes | 18 h | 1 h | 15 m |
| AB9113SC-2.5G | Dark Blue | 2000 cps | 20 - 30 Minutes | 18 h | 1 h | 15 m |
| 0151-2.5G | Clear | 400 - 1000 cps | 30 Minutes | 1-3 days | 2 h | 1.5 h |
| 0151BLUE-2.5G | Dark Blue | 400 - 1000 cps | 30 Minutes | 1-3 days | 2 h | 1.5 h |

*Mil Spec Approved

### MT-RJ and MT Terminations

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | | |
|---|---|---|---|---|---|---|
| | | | | 25°C | 65°C | 90°C |
| AB9001MT-2.5G | Dark Blue | 55K - 65K cps | 30 Minutes | 18 h | 1 h | 15 m |
| AB9001MTUP-2.5G | Clear | 55K- 65K cps | 30 Minutes | 18 h | 1 h | 15 m |
| AB9112-2.5G* | Dark Blue | 2000 cps | 40 Minutes | 18 h | 1 h | 15 m |

*Mil Spec Approved

### Plastic Fiber Terminations

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | |
|---|---|---|---|---|---|
| | | | | 25°C | 65°C |
| AB9110LV-2.5G | Clear | 500 cps | 60 Minutes | 18 h | 1 h |

Most materials can be supplied in easy to use 2-part packages, premixed and frozen syringes or cartridges, jars, vials, quarts, gallons or other specialty packaging as required. Please contact FOC for information.

CONSUMABLES

# Extended Use / Heat Cure Epoxy
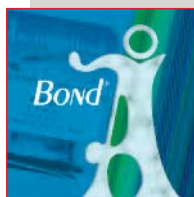
## ẢNGSTRÖM *Bond* ®

### Two-Part Extended Use / Heat Cure Epoxy

Extended Use / Heat Cure Epoxies allow for long working times but can also have fast cure times when used with a heat source. Other benefits include resistance to high temperatures, and high bond strengths. The disadvantage to heat cure systems is that they can cause stress during the curing process and can cause fiber core cracking and pistoning in multimode connectors. **AB9320** addresses this problem with its unique formulation as a low stress, heat cure epoxy and delivers excellent performance in both multimode and single mode applications.

### Single Mode and Multimode Terminations

| Part Number | Cured Color | Viscosity | Working Time | TG | Cure Schedules | |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | | 80°C | 100°C |
| AB9320-2.5G* | Blue | 900 cps | 1.5 hours | 124 °C | 30-120 m | 10-30 m |
| AB9328-2.5G | Blue | 2000 cps | 1.5 hours | 124 °C | 30-120 m | 10-30 m |

*NASA Approved

### Single Mode Terminations

| Part Number | Cured Color | Viscosity | Working Time | TG | Cure Schedules | |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | | 100°C | 150°C |
| AB9123-2.5G | Red | 2000 cps | 3 - 4 hours | 120 °C | 5 m | 1 m |
| AB9123BLUE-2.5G | Blue | 2000 cps | 3 - 4 hours | 120 °C | 5 m | 1 m |
| ET353ND-2G | Red | 2000 cps | 3 - 4 hours | 120 °C | 5 m | 1 m |
| ET353ND-4G | Red | 2000 cps | 3 - 4 hours | 120 °C | 5 m | 1 m |
| ET353NDBLK-2.5G | Black | 2000 cps | 3 - 4 hours | 120 °C | 5 m | 1 m |
| ET353NDT-2.5G | Dark Amber | 9000 - 15000 cps | 4 hours | 120 °C | 5-10 m | 1 m |
| AB9119-2.5G* | Red | 2000 cps | 2 hours | 105 °C | 5 m | 1 m |
| ET383ND-2.5G | Red/Amber | 4500 cps | 8 hours | 120 °C | 15 m | 5 m |

*NASA Approved

Most materials can be supplied in easy to use 2-part packages, premixed and frozen syringes or cartridges, jars, vials, quarts, gallons or other specialty packaging as required. Please contact FOC for information.

CONSUMABLES

# Quick Cure Field Termination Adhesives
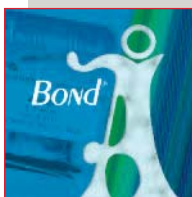
**ÅNGSTRÖM***Bond* ®

### Two-Part Quick Cure Field Termination Adhesive Kits

Field termination adhesives, sometimes referred to as "anaerobic adhesives", are easy to use and very fast without the use of heat. With most fiber optic terminations, the two parts of the epoxy are mixed together and then injected into the connector. However, with the following systems, the adhesive is injected into the connector by itself without the need for any mixing. Then, just prior to insertion, the fiber is dipped in the primer so it activates the adhesive as it slides through the connector. Once activation occurs, connectors are ready to polish in as little as 30 seconds.

**AB101** is a traditional anaerobic system which will behave similar to many of the other adhesive/primer, field termination systems that are currently on the market.

**AB202** is an exclusive Ångström*Bond*® black adhesive that has all the benefits of a traditional anaerobic system without any of the drawbacks. The process in which you apply **AB202** is exactly the same as **AB101** but because it is NOT anaerobic it will cure on its own over time. True anaerobic systems will only cure in the absence of oxygen or if it comes in contact with the primer so there is always potential for uncured adhesive when using such systems. **AB202** also has the distinction of being U.S. Navy approved.

### Ordering Information

| Part Number | Cured Color | Working Time | Kit |
|---|---|---|---|
| AB101-10mL | Clear Amber | 30 seconds | 10 ml bottle of adhesive<br>2 oz. bottle of primer |
| AB202-20mL* | Black | 2-3 minutes | 20 ml bottle of adhesive<br>3 oz. bottle of primer |
| AB202-PRIMER | NA | NA | 3 oz. bottle of primer only |

\* U.S. Navy approved

**CONSUMABLES**
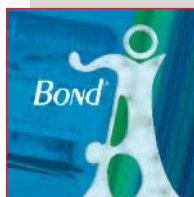
# UV Cure Adhesives

## Ångström Bond ®

### One Part UV Cure Adhesives

Systems designed to cure under UV radiation (310 - 400 nm).  These are fast curing systems with a wide variety of properties for optical and fiber optic applications.  These adhesives are loosely categorized in the following tables but we recommend that you speak with one of our application engineers to ensure you have the right product for your application.

- **Fiber Re-Coating**
- **Optical Adhesives**
- **Low Refractive Index**
- **Optical Positioning**
- **Temporary Fixturing**
- **Laminating**
- **Flexible**
- **High Power Laser**

- **High Tg**
- **Plastic Bonding**
- **Silicone UV Adhesive**
- **Biocompatible**
- **UV & Blue Light Cure**
- **Hybrid UV & Heat Cure Adhesive**
- **General Purpose**

### Fiber Re-Coating

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| DSM950-200-10Z or -2OZ | Clear | 1.55 | 2,500 cps | 5% | 1.0 J*CM² for a 75µm Film |
| DSMDF0007-1OZ or -2OZ | Clear | 1.38 | 4,000 cps | -- | 1.0 J*CM² for a 75µm Film |
| DSM953-005-20Z | | -- | 4,850 cps | -- | 25s @ 150 mW/cm² |

### Optical Adhesives

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OP-29-3ML | Clear | 1.50 | 2,500 cps | 2.8 % | 2-5s @ 150 mW/cm² |
| OP-29-T-3ML | Clear | 1.50 | 5,000 cps | 2.8 % | 2-5s @ 150 mW/cm² |
| OP-29-GEL-3ML | Clear | 1.50 | 20,000 cps | 2.8 % | 2-5s @ 150 mW/cm² |
| OP-30-3ML | Clear | 1.51 | 400 cps | 2.3 % | 5-30s @ 200 mW/cm² |
| OP-32-3ML | Clear | 1.51 | 4,500 cps | 2.3 % | 10-30s @ 200 mW/cm² |
| OP-4-20632-3ML | Clear | 1.55 | 500 cps | < 0.2 % | 1-10s @ 150 mW/cm² |
| OP-4-20641-3ML | Clear | 1.51 | 21,000 cps | < 0.5 % | 1-10s @ 150 mW/cm² |
| OP-4-20656-3ML | Clear | 1.55 | 25,000 cps | 0.2 % | 1-20s @ 150 mW/cm² |
| OP-4-20658-3ML | Clear | 1.59 | 1,200 cps | < 0.4 % | 1-3s @ 150 mW/cm² |
| OP-52-3ML | Clear | 1.52 | 5,000 cps | 1.9 % | 3-5s @ 150 mW/cm² |
| OP-54-3ML | Clear | 1.51 | 100 cps | 1.8 % | 1-4s @ 150 mW/cm² |

# UV Cure Adhesives (continued)

**CONSUMABLES**

### Low Refractive Index

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| EX1128-1.36-3CC | Clear | 1.36 | 1,000 cps | -- | 15s - 5m @ 100-300 mW/cm$^2$ |
| EX1128-1.38-3CC | Clear | 1.38 | 1,000 cps | -- | 15s - 5m @ 100-300 mW/cm$^2$ |
| EX1128-1.40-3CC | Clear | 1.40 | 1,000 cps | -- | 15s - 5m @ 100-300 mW/cm$^2$ |
| R221-3CC | Clear | 1.41 | 125 cps | 3.9 % | 1s @ 1 J/cm$^2$ |
| AB9053-3CC | Clear | 1.41 | 6,000 cps | 3.9 % | 1s @ 150-300 mW/cm$^2$ |
| OG134-3CC | Clear | 1.42 | < 100 cps | -- | 1-2m @ 100 mW/cm$^2$ |

### Optical Positioning

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OP-4-20632-GEL-3ML | Clear | 1.55 | 50,000 cps | < 0.2 % | 1-10s @ 150 mW/cm$^2$ |
| OP-4-20714-3ML | White Opaque | -- | 60,000 cps | 0.4 % | 2-5s @ 150 mW/cm$^2$ |
| OP-54-3ML | Clear | 1.51 | 100 cps | 1.8 % | 1-4s @ 150 mW/cm$^2$ |
| OP-67-LS-3ML | Opaque | -- | 135,000 cps | < 0.1 % | |

### Temporary Fixturing

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OP-18-3ML | Clear | 1.50 | 48,000 cps | 2.0 % | 5s @ 100 mW/cm$^2$ |
| OP-19-3ML | Clear | -- | 6,000 cps | -- | 5-20s @ 1000 mW/cm$^2$ |
| OP-19G-3ML | Clear | -- | 20,000 cps | -- | 5-20s @ 1000 mW/cm$^2$ |

### Laminating

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OP-40-3ML | Clear | 1.49 | 135 cps | 3.4 % | 1s @ 150 mW/cm$^2$ |
| OP-42-3ML | Clear | 1.50 | 300 cps | 1.0 % | 1s @ 150 mW/cm$^2$ |
| OP-44-3ML | Clear | 1.48 | 190 cps | 2.9 % | 1s @ 150 mW/cm$^2$ |
| OP-45-3ML | Clear | 1.48 | 1,200 cps | 3.2 % | 4s @ 150 mW/cm$^2$ |

### Flexible

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OG116-41-3CC | Tan | -- | 13,619 cps | -- | 1-2m @ 100 mW/cm$^2$ |
| OP-4-20639-3ML | Clear | 1.47 | 35 cps | 2.4 % | 1-10s @ 150 mW/cm$^2$ |
| OP-4-20647-3ML | Clear | 1.47 | 120 cps | 1.6 % | 1-15s @ 150 mW/cm$^2$ |
| OP-4-20647-GEL-3ML | Clear | 1.47 | 30,000 cps | 1.6 % | 1-15s @ 150 mW/cm$^2$ |
| OP-4-20655-3ML | Clear | 1.48 | 800 cps | 1.9 % | 1-3s @ 150 mW/cm$^2$ |

# UV Cure Adhesives (continued)

### High Power Laser

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| AB9061-3CC | Clear | 1.55 | 9,000 cps | < 0.3 % | 5-20s @ 100 mW/cm² |

### High Tg

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| AB9028-3CC | Clear | 1.57 | 1,000 cps | < 0.5 % | 30-50s @ 150 mW/cm² |
| AB9028MV-3CC | Clear | 1.58 | 4,000 cps | < 0.2 % | 30-50s @ 150 mW/cm² |
| DSM956-105-3CC | Clear | 1.53 | 1,100 cps | 4.0 % | 1-2m @ 100 mW/cm² |
| ET90-87-6-3CC | Clear | 1.50 | 350 cps | < 1.0% | 1-2m @ 100 mW/cm² |
| OG147-3CC | Black | -- | 200,000 cps | -- | 1-2m @ 100 mW/cm² |
| OG157-10CC | Slight Yellow | 1.57 | 98,500 cps | -- | 1-2m @ 100 mW/cm² |
| OP-4-20632-3ML | Clear | 1.55 | 500 cps | < 0.2 % | 1-10s @ 150 mW/cm² |
| OP-4-20632-GEL-3ML | Clear | 1.55 | 50,000 cps | < 0.2 % | 1-10s @ 150 mW/cm² |
| OP-4-20663-3ML | Clear | 1.54 | 1,900 cps | 0.8 % | 1-5s @ 150 mW/cm² |

### Plastic Bonding

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| AB9042-3CC | Clear | -- | 50,000 cps | 2.0 % | 5-30s @ 150-300 mW/cm² |
| AB9088LV-3CC | Clear | -- | 450 cps | -- | 5-20s @ 150-300 mW/cm² |
| OP-21-3ML | Clear | 1.50 | 600 cps | 2.7 % | 1-15s @ 150 mW/cm² |
| OP-21G-3ML | Clear | 1.50 | 25,000 cps | 2.7 % | 1-15s @ 150 mW/cm² |

### Silicone UV Adhesives

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| AB5091-3CC | Translucent | -- | 5,500 cps | -- | 20s @ 30 mW/cm² |

### Biocompatible

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OG169-3CC | Clear | 1.51 | 82 cps | -- | 1-2m @ 100 mW/cm² |
| OG603-3CC | Clear | 1.48 | 300 cps | -- | 10s @ 100 mW/cm² |

**CONSUMABLES**

Specifications may change without notice

# UV Cure Adhesive (continued)

## UV & Blue Light Cure

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| OG178-3CC | Clear | 1.56 | 500 cps | -- | 60s @ 100 mW/cm$^2$ (Visible Light) |
| OP-29V-3ML | Clear | 1.50 | 2,500 cps | 2.8 % | 2-10s @ 150 mW/cm$^2$ |
| OP-29V-GEL-3ML | Clear | 1.50 | 110,000 cps | 2.8 % | 2-10s @ 150 mW/cm$^2$ |
| OP-30-3ML | Clear | 1.51 | 400 cps | 2.3 % | 5-30s @ 200 mW/cm$^2$ |
| OP-32-3ML | Clear | 1.51 | 4,500 cps | 2.3 % | 10-30s @ 200 mW/cm$^2$ |

## Hybrid UV & Heat Cure Adhesive

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| ET-90-127-3 | -- | -- | 300 cps | -- | 2m @ 100 mW/cm$^2$ |
| ET-90-130 | -- | -- | 26,500 cps | -- | 2m @ 100 mW/cm$^2$ |
| OP-4-20632-H-3ML | Clear | 1.52 | 500 cps | 0.2 % | 1-3s @ 150 mW/cm$^2$ |
| OP-24-REV-B-3ML | Clear | 1.50 | 800 cps | 3.7 % | 10-20s @ 150 mW/cm$^2$ |

## General Purpose

| Part Number | Cured Color | I.R. | Viscosity | Shrinkage | Cure Schedules* |
|---|---|---|---|---|---|
| AB1297-3CC | Clear | 1.49 | 30,000 cps | -- | 15s @ 150 mW/cm$^2$ |
| AB9047-3CC | Pale Yellow/Green | 1.52 | 2,500 cps | < 1.0 % | 1-10s @ 150-300 mW/cm$^2$ |
| DSM4D6-225-3CC | Clear | 1.49 | 325 cps | < 3.0 % | 60-90s @ 150-200 mW/cm$^2$ |
| DSM956-104-3CC | Clear | 1.53 | 2,400 cps | 3.0 % | 60s @ 25 W/cm$^2$ |
| NOA61-3CC | Clear | 1.56 | 300 cps | 1.5 % | 5-10s @ 150-300 mW/cm$^2$ |
| NOA81-6CC | Clear | 1.56 | 300 cps | -- | 5-20s @ 150-300 mW/cm$^2$ |
| OP-20-3ML | Clear | 1.46 | 1,000 cps | 2.7 % | 1-3s @ 150 mW/cm$^2$ |
| OP-20G-3ML | Clear | 1.50 | 130,000 cps | 2.7 % | 1-3s @ 150 mW/cm$^2$ |

* The required intensity and cure time should be determined during the initial process validation stage.  Factors that should be considered during process validation which can effect the adhesive cure rate and depth of cure include:  part geometry, bond-gap size, percent of light transmittance through the substrate at 365nm and/or 436nm, distance from the light source to the adhesive bond area, UV and visible light intensity and spectral output of the light source, the desired margin of safety to be built into the process, etc.  For specific technical recommendations relating to the application, please call FOC.

CONSUMABLES

# Specialty Epoxy & Adhesives
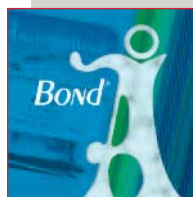
## ÅNGSTRÖM*Bond* ®

### Specialty Epoxy & Adhesives

These adhesives are loosely categorized in the following tables, but we recommend that you speak with one of our application engineers to ensure you have the right product for your application.

- **Electrically Conductive**
- **Thermally Conductive**
- **Boot Bonding**
- **Flexible**
- **Spectrally Transparent**
- **Cyanoacrylate (Quick Cure)**
- **General Bonding**

### Electrically Conductive

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | | |
|---|---|---|---|---|---|---|
| AB2902-2.5G | Silver | Creamy Paste | 2 - 3 Hours | 24h @ 25°C | 1-2h @ 65°C | 30m @ 100°C |
| ETH20E-2.5G | Silver | 2200 - 3200 cps | 2 - 3 Days | 90m @ 80°C | 15m @ 120°C | 5m @ 150°C |

### Thermally Conductive

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | | |
|---|---|---|---|---|---|---|
| AB9578-2.5G | Grey | 8,200 cps | 30 minutes | 8-12h @ 25°C | 2h @ 60°C | 1h @ 80°C |
| ETH70E-2.5G | Silver | 4000 - 7000 cps | 4 Days | 90m @ 80°C | 15m @ 120°C | 5m @ 150°C |

### Boot Bonding

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | |
|---|---|---|---|---|---|
| | | | | 25°C | 65°C |
| AB9245-2.5G | Clear Amber | 4,000 cps | 2 hours | 18 h | 1-2 h |
| AB9247-2.5G | Clear Amber | 5,500 cps | 2 hours | 18 h | 1-2 h |

### Flexible

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | | |
|---|---|---|---|---|---|---|
| | | | | 25°C | 65°C | 90°C |
| AB9195-2.5G | Clear Yellow | 200 cps | 3-4 hours | 24 h | 3-4 h | 30m |
| AB1620-3CC | Translucent | 32,000 cps | 16 minutes | 24 h | -- | -- |
| AB1624-3CC | Translucent | 55,000 cps | 13 minutes | 24 h | -- | -- |

### Spectrally Transparent

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules | |
|---|---|---|---|---|---|
| | | | | 25°C | 65°C |
| ET305-2.5G | Clear | 100 - 300 cps | 20 minutes | 8-12 h | 1 h |
| AB9110LV-2.5G | Clear | 500 cps | 60 Minutes | 18 h | 1 h |

**CONSUMABLES**

# Specialty Epoxy & Adhesives (continued)

### Cyanoacrylate (Quick Cure)

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules |
|---|---|---|---|---|
| ND365000-20ML | Clear | 5,000 cps | Not Applicable as these cure in seconds when the resin comes in contact with the primer | |
| ND330100-1G | Clear | 90 - 120 cps | | |

### General Optical Bonding

| Part Number | Cured Color | Viscosity | Working Time | Cure Schedules 25°C | 65°C | 90°C |
|---|---|---|---|---|---|---|
| AB9110LVBLUE-2.5G | Black | 500 cps | 60 Minutes | 18 h | 1 h | |
| AB9190-2.5G | Clear | 150 cps | 2-3 hours | 18 h | 1-2 h | 20 m |
| AB9226-2.5G | Clear | 13,000 cps | 5 minutes | 18 h | 1 h | |
| AB9263-2.5G | Amber | 30,000 cps | 90 minutes | 16 h | 1-2 h | |
| AB9282-2.5G | Gray | 8,000 cps | 2-4 hours | 24 h | 1 h | 30 m |
| ET301-2.5G | Clear | 100 - 200 cps | 30 - 50 minutes | 12 h | 2 h | |
| ET301-2-2.5G | Clear | 125 cps | 8 hours | 48 h | | 1 h |
| ET301-2FL-2.5G | Clear | 300 - 600 cps | 12 hours | 72 h | | 1 h |
| ET302-3M-2.5G | Clear | 800 - 1,600 cps | 90 - 120 Minutes | 12 h | 1.5 h | |

Most materials can be supplied in easy to use 2-part packages, premixed and frozen syringes or cartridges, jars, vials, quarts, gallons or other specialty packaging as required.  Please contact FOC for information.

**CONSUMABLES**

# Cleaning Supplies

## Fiber Optic Cleaning Supplies

Clean fiber optic components are essential to their performance.  Whether in manufacturing, installation, or operation, a clean end face is critical for maximum performance and reliability. Since the majority of fiber optic applications operate down at the micron level, any sort of contamination can be a major problem.  For example, the core of a single mode fiber is approximately 9 microns and to put this in perspective, a typical human hair is 50 to 75 microns.  If just a one micron dust particle comes in contact with the core of a single mode fiber (a particle of cigarette smoke is 3 microns), it can have a dramatic affect both optically and physically.  Optically, you can expect higher losses and physically, you run the risk of permanent damage, not easily remedied.

**Fiber Optic Center offers cleaning supplies in the following areas;**

- **Patchcord Cleaning**
- **Backplane Ferrule / Bulkhead Cleaning**
- **Fiber Optic Cleaning Fluids**
- **Lint Free Wipes**
- **Pre-Saturated Wipes**
- **General Purpose Cleaning Swabs**
- **Canned Air**
- **Cleaning Kits**

**CONSUMABLES**

# Patchcord Cleaning

**CONSUMABLES**

# CleTop® & CleTop®-S

### Patchcord Cleaning Cassettes

The CLETOP®-S and CLETOP® does away with cleaning fluids such as isopropyl alcohol which are not only toxic and flammable, but also leave a residue on the fiber ends after cleaning.  The CLETOP®-S and CLETOP® cloth is extremely effective in the removal of oil, grease, dust, and other contaminants from ferrule surfaces.  CLETOP®-S and CLETOP® cleaners provide thorough cleaning of ferrule endfaces by using a dry alcohol-free cloth, and have a lifetime of over 400 wipes per reel.

## Options

- **Type A** units have two slots specifically designed to accept 2.5mm ferruled connectors
- **Type B** units feature open rectangular access to the tape that accepts any connector style
- **Blue Tape** is designed for cleaning 2.5mm ferruled connectors or larger
- **White Tape** is a finer weave that does not snag the smaller 1.25mm ferruled connectors

## New Features of the CleTop®-S

The newer CLETOP®-S fiber optic cleaning cassette builds on the success of its predecessor, CLETOP®, to give world class cleaning performance at exceptionally competitive cost efficiency.  It features improved ESD protection in a more ergonomic package.

- Slide open lock offers easier access to replace drop-in replacement cassette
- Cletop®-S: Tool-free case design.  Drop-in replacement tape cartridge
- Central push button operation offers ease of use for left handed and right handed operators

# Optipop®

### Patchcord Cleaning Cassettes

The Optipop® dry cloth cleaning systems are the most advanced fiber tip cleaning products available today.  The unique, densely woven micro-fiber cloth provides superior cleaning performance while minimizing static charge, ensuring that debris is not instantly attracted back onto the fiber tips like other cleaners.

## Features & Benefits

- Optipop® Reel Cleaner is a convenient hand held cassette
- Optipop® card cleaner is a smaller packaged cleaner that can easily slide onto any kit
- The cloth is robust, it does not fray or leave any fibrous materials behind
- Ultra clean micro-fiber cloth captures debris and other contamination

## Ordering Information

| TYPE | CLETOP®-S | CLETOP® | Optipop® |
| --- | --- | --- | --- |
| Universal w/o Pins | 8500-10-0016MZ | 8500-10-0014MZ | 6338 |
| 2x Slot for 1.25 & 2.5mm Connectors | -- | 8500-10-0011MZ | 6437 |
| 2x Slot for 2.5mm Connectors | 8500-10-0020MZ | 8500-10-0027MZ | -- |
| MTRJ w/ Pins | -- | 8500-10-0032MZ | 6340 |
| MPO/MTP w/ Pins | -- | 8500-10-0033MZ | 6339 |
| SMA and Biconics | 8500-10-0029MZ | 8500-10-0028MZ | -- |
| OptiTap® | -- | -- | 8057 |
| **Replacement Tape** | | | |
| White Replacement Tape | 8500-10-0017MZ | 8500-10-0015MZ | 6232/1 |
| Blue Replacement Tape | 8500-10-0021MZ | 8500-10-0012MZ | -- |

# Patchcord Cleaning

## Seikoh Giken Handimate
### Patchcord Cleaning Cassettes

The compact, palm-sized HandiMate is the simplest, most economical cleaning tool currently on the market for both field installation and in bench top laboratories requiring optimum performance for critical applications. The patented Slide-Guide feature accommodates both 2.5mm and 1.25mm ceramic ferrules - and allows the user to properly align both PC polished and APC angle polished optical connectors for maximum cleaning of the critical fiber core.  Utilizing a proprietary, non-woven microfiber, the HandiMate can be operated as both a dry cleaner for light dust & lint and/or as a wet cleaner for dried on salts & alcohol residue.

### Features & Benefits

- Portable lightweight package
- Effective wet or dry cleaning
- Wide range of connectors and endface styles
- More than 500x cleanings per unit
- ESD Compliant

### Ordering Information

| Part Number | Description |
|---|---|
| SHM-500 | Seikoh Giken Handimate Patchcord Cleaning Cassette |

## NEOCLEAN R
### Disposable Patchcord Cleaning Cassettes

The NEOCLEAN R cassette is a disposable cassette cleaner that is palm sized, light weight and easy to use for cleaning fiber optic connector end faces. This cassette cleaning package offers an economical, all-dry cleaning solution. The sealed container prevents cloth contamination from external debris.

### Features & Benefits

- More than 200 ferrule cleanings per unit
- Cleaning cloth is washed in deionized water in a Class 10000 clean room
- Final cassette assembly completed in an environmentally controlled clean room
- Cassette case housing is made with antistatic resins

### Ordering Information

| Part Number | Description |
|---|---|
| 8505 | NEOCLEAN R Cassette Cleaner – LC, SC, FC, ST, MU, female MT & MTRJ connectors |
| 8504 | NEOCLEAN R Cassette Cleaner – OptiTap®-compatible connection systems |

## ITW Chemtronics QbE
### Disposable Patchcord Cleaning System

The only cleaning system that gives both options: For "Wet" cleaning use Electro-Wash® PX Fiber Optics Cleaner or blot  connector on Electro-Wash® MX Presaturated wipe first.

### Features & Benefits

- Heavy Duty Lint-Free Wiping Material – Tough enough to remove buffer-gel; soft enough for end-face cleaning
- Convenient Size – Portable cleaning system easily fits in tool cases or stores on work benches

### Ordering Information

| Part Number | Qty | Description |
|---|---|---|
| QbE | 200/Box | ITW QbE™.  Fiber Optic Cleaner Box, 3" x 3" wipes.  For cleaning fiber optic end faces. |
| QbE-R | 200/Box | ITW QbE™.  Fiber Optic Cleaner Box, 3" x 3" wipes.  For cleaning recessed end faces. |

**CONSUMABLES**

Specifications may change without notice

# Backplane Ferrule / Bulkhead Cleaning

**CONSUMABLES**

Backplane ferrule bulkhead cleaning refers to cleaning the alignment sleeve in the adapter and/or the ferrule endface of a connector in the inaccessible end of a device or enclosure. The Ferrule Mate, AFL One Click and the HUX cleaner all contain an ribbon of cloth specially designed for cleaning fiber optic end faces. These units advance the cloth during each application to ensure hundreds of reliable cleanings with zero cross-contamination. We also offer single use swabs by CleTop, AFL, Micro Care and ITW. Please see the Westover CleanBlast section for information on their cleaning/inspection system ideal for high volume applications.

## Seikoh Giken FERRULE MATE™

### Backplane Cleaner

The all new FERRULE MATE™ by Seikoh Giken can be used in the field or in the factory. Now there is ONE solution to effectively clean both ferrules within adapters and cable assemblies. Restore your fiber optic connectors' performance inside the enclosure and outside using the Ferrule Mate cleaning tool; cleans ferrule endfaces and alignment sleeves.

### Features & Benefits

- Polyester static free cloth for optimal cleaning
- Ideal for cleaning transceiver ports
- 350 swipes per cleaner
- Cleaning tip adjustable to 45° for angled adapters

## AFL One Click

### Backplane Cleaner

AFL Telecommunications' backplane cleaners make it easy to clean connector end faces within the adapter without the use of alcohol. Simply insert the One-Click Cleaner into an adapter and push until an audible "click" is heard. The One-Click Cleaner uses a mechanical push action to advance an optical grade cleaning tape while the cleaning tip is rotated to ensure the fiber end-face is effectively, but gently, cleaned.

### Features & Benefits

- Ergonomic, comfortable designs
- Over 500 cleanings in one unit
- Delivers consistent cleaning results
- Effective on a variety of contaminates

## The Fibers HUXCleaner™

### Backplane Cleaner

HUXCleaner™ is a PEN Type In-Adaptor Ferrule Cleaner which delivers about 500 cleanings per unit.

### Ordering Information

| Manufacturer | 2.5mm | 1.25mm | MPO/MTP |
|---|---|---|---|
| Seikoh Giken | SFM-250 | SFM-125 | -- |
| AFL | 8500-05-0001MZ | 8500-05-0002MZ | CS000710 |
| The Fibers | HUX CLEANER | HUX CLEANER 125 | -- |

# Backplane Ferrule / Bulkhead Cleaning

## CLETOP®
### Adapter Cleaning Swabs

CLETOP® sticks are the industry standard for in adapter cleaning swabs. Made with the same cloth as their highly effective CLETOP patchcord cleaning cassettes, these swabs are specifically designed to clean connectors located in a system, not easily accessible backplane.

## AFL
### Adapter Cleaning Swabs

The AFL CCT Connector cleaning tips are designed to work dry, or with the MCC-FCC03M Fiber Connector Cleaner solution.

## Micro Care
### Adapter Cleaning Swabs

The Micro Care FiberCare® connector cleaning sticks are designed for cleaning fiber optic connector end-faces within alignment sleeves. These sticks use high-purity fiberous tips to wick liquids and particulate from end-faces, which boosts cleaning quality. Recommended for use with their FCC2 Fiber connection cleaner solution, or they can function dry. A variety pack of all their adapter cleaning swabs is also available with part number MCC-VM and of just their 2.5mm and 1.25mm adapter cleaning swabs with part number MCC-VS.

## ITW Chemtronics
### Adapter Cleaning Swabs

Specifically designed to fit snugly and conform to mating. May be used wet or dry to remove dirt and oil contamination on sleeves, adapters and polishing fixtures. Use with Electro-Wash® PX or CZ solvent cleaner for best results.

### Ordering Information

| Type | CLETOP | | AFL | | MicroCare | | ITW | |
|---|---|---|---|---|---|---|---|---|
| 2.5mm | 8500-10-0024/5 | 5/pk | CCTS-25-0900MZ | 40/pk | MCC-S25 | 50/pk | 25184 | 50/pk |
| | 8500-10-0024MZ | 200/pk | CCTS-25-0910MZ | 300/pk | -- | | 25183 | 100/pk |
| | -- | | -- | | -- | | 48040 | 400/pk |
| 1.25mm | 8500-10-0022MZ | 200/pk | CCTS-12-0900MZ | 40/pk | MCC-S12 | 50/pk | 25123X | 100/pk |
| | 8500-10-0022/5 | 5/pk | CCTS-12-0910MZ | 300/pk | -- | | -- | |
| 1.6 & 2.0mm | -- | | CCTS-16-0900MZ | 40/pk | MCC-S16 | 50/pk | -- | |
| | -- | | CCTS-16-0910MZ | 300/pk | -- | | -- | |
| 2.0mm | 8500-10-0023MZ | 200/pk | -- | | -- | | -- | |
| | 8500-10-0023/5 | 5/pk | -- | | -- | | -- | |
| 2.0 & 2.5mm | 8500-10-0030MZ | 100/pk | -- | | -- | | -- | |
| MT | -- | | CCTX-MT-0900MZ | 20/pk | MCC-XMT | 50/pk | 38142F | 50/pk |
| | -- | | CCTX-MT-0910MZ | 300/pk | -- | | -- | |

**CONSUMABLES**

Specifications may change without notice

# Fiber Optic Cleaning Fluids

**CONSUMABLES**

AFL, Micro Care and ITW offer many different cleaning solutions designed to remove contaminations without any damage to the optical device. Like alcohol, these fluids will dry quickly but without the residue that alcohol typically leaves behind.

## AFL FCC2
### Fiber Connector Cleaning Fluid

FCC2 is a non-flammable, environmentally safe, residue free solvent engineered to clean fiber connector end-faces in the backplane and alignment sleeves, while also offering excellent cleaning of particulate, fingerprint oils, salts, and other residues. Designed to be used with AFL/Noyes CCT connector cleaning tips. Dissolves light oils, salts, grime and uncured epoxies, and is especially effective when used with an appropriate mechanical wipe (Noyes Connector Cleaning Tips).

## Micro Care FPF03 & POC03
### Fiber Preparation Fluid and Precision Optical Cleaner

FPF03 is a non-flammable, environmentally safe solvent engineered to clean fibers after stripping, before fusion splicing or termination and for cleaning connectors and fuses. It is ESD safe.

POC03 is a non-flammable, environmentally safe solvent designed to clean critical optical devices, including soft plastic fiber and components. This fast-drying solvent cleans all types of optical surfaces as well as, or better than acetone or alcohol, without the hazards or compatibility issues.

The Triton™ 3-way dispensing system enables users to dispense on a swab, a spray or a top side saturator all in one.

## ITW Chemtronics Electro-Wash PX & MX
### Extra-strength cleaners and degreasers

Both the Electro-Wash PX and MX are extra-strength universal cleaners and degreasers safe for use on plastics. The PX dries fast and is recommended for cleaning fiber optic connectors while the MX has a moderate evaporation time recommended for cleaning cables and fiber. The MX is capable of removing water blocking gel without a second alcohol rinse.

### Ordering Information

| Part Number | Description | Qty |
|---|---|---|
| FCC2-00-0900 | FiberCare™ Optical Quality Cleaning Fluid with 3-way pump dispenser. | Ea |
| FCC2-00-0901 | | Case of 12 |
| MCC-FCC03M | FiberCare™ Fiber Connector Cleaner with 3-way pump dispenser. | Ea. |
| MCC-FPF03M | FiberCare™ Fiber Preparation Fluid with 3-way pump dispenser. | Ea. |
| MCC-POC03M | FiberCare™ Precision Optical Cleaning Fluid with 3-way pump dispenser. | Ea. |
| ES1210 | ITW Chemtronics® Electro-Wash® PX. 12.5 oz. aerosol can. | Ea |
| ES810 | ITW Chemtronics® Electro-Wash® PX. 5 oz. aerosol can. | Ea |
| ES110 | ITW Chemtronics® Electro-Wash® PX. 1 gallon pail. | Ea |
| ES1621 | ITW Chemtronics® Electro-Wash® MX. 10 oz. aerosol can. | Ea |
| CP421 | ITW Chemtronics® Electro-Wash® MX. 8 x 10" Wipe, 25 wipes per box. | 25/Box |
| FW2150 | ITW Chemtronics® Electro-Wash® MX. 9 gram pen dispenser. | Ea |
| T021 | ITW Chemtronics® Electro-Wash® MX. 6 x 8.5" Wipe, 100 wipes per tub. | 100/Tub |

# Lint-Free Wipes

Lint free wipes are essential when dealing with any sort of optical application.  ITW, CleanTex, Micro Care and Kimberly Clark offer wipes in different sizes, absorbency and packaging to fit your application.

## ITW Chemtronics Econowipes

### Lint free wipes

Coventry™ Econowipes™ are a non-woven wipe made from a hydro-entangled, 45/55 polyester/cellulose blend, for optimum purity in a non-woven wipe.   The 45/55 polyester/cellulose hydro-entangled blend is highly absorbent and maintains strength when wet.

## CleanTex HydroSorb I & III

### Lint free wipes

CleanTex™ brings you the strength, quality, and composition you need.  HydroSorb III is the most lint-free wipe available from CleanTex™ and is the recommended wipe for most fiber optic applications.  For applications involving larger amounts of liquid, the cellulose/polyester blended HydroSorb I is more absorbent than the HydroSorb III.

## Micro Care FiberWipes

### Lint free wipes

Micro Care FiberWipes are pure, clean and uncontaminated when pulled from the dispenser and are the perfect size for both fiber or connector cleaning.  The FiberWipe fabric is made only by DuPont and has been optimized for the contamination found in fiber optic installations.

## Kimberly-Clarke Kimwipes

### Lint free wipes

These economical yet highly useful and delicate task wipes are soft, non-abrasive and are considered safe for use on most delicate surfaces.  Of course, one would be wise to carefully analyze the impact of these wipes on any surface to which they might have special concern, and do the appropriate inspection to make sure that this choice of wipe is acceptable.  The Kimwipes® EX-L Wipes are made from 100% virgin wood fiber.

### Ordering Information

| Part Number | Description | Qty |
|---|---|---|
| 6704 | ITW Chemtronics® Econowipes™, 4" x 4" Polyester/cellulose blend, non woven wipe. | 1200/Bag |
| 6709 | ITW Chemtronics® Econowipes™, 9" x 9" Polyester/cellulose blend, non woven wipe. | 300/Bag |
| 6713 | ITW Chemtronics® Econowipes™, 12" x 13" Polyester/cellulose blend, non woven wipe. | 50/Bag |
| CT404 | CleanTex™ HydroSorb III (4 x 4).  Hydro-entangled lint-free polyester wiper. | 200/Bag |
| CT409 | CleanTex™ HydroSorb III (9 x 9).  Hydro-entangled lint-free polyester wiper. | 150/Bag |
| CT512 | CleanTex™ HydroSorb Blue (12 x 12).  Hydro-entangled lint-free cellulose/polyester blend wiper. | 50/Bag |
| CT604 | CleanTex™ HydroSorb I (4 x 4).  Hydro-entangled lint-free cellulose/polyester blend wiper. | 1200/Bag |
| CT606 | CleanTex™ HydroSorb I (6 x 6).  Hydro-entangled lint-free cellulose/polyester blend wiper. | 600/Bag |
| CT609 | CleanTex™ HydroSorb I (9 x 9).  Hydro-entangled lint-free cellulose/polyester blend wiper. | 300/Bag |
| CT612 | CleanTex™ HydroSorb I (12 x 12).  Hydro-entangled lint-free cellulose/polyester blend wiper. | 150/Bag |
| MCC-WFW | Micro Care FiberWipes™ (4" x 2", 90 wipes per container) | 90/Bag |
| MCC-FA1 | Micro Care FiberAide™ Individually Wrapped Wipes (4" x 2", wipes per box) | 50/Box |
| 34120-B | Kimberly-Clarke Kimwipes® EX-L Delicate Task Wipers.  Soft, Non-abrasive, Virgin, One-ply Tissue. | 280/Box |
| 34120 | | 30 Boxes |

**CONSUMABLES**

# Pre-Saturated Wipes

In most cases, a wipe used in conjunction with a cleaning fluid will do a better job of removing unwanted contaminants than just the wipe alone.  If you do not want to carry a separate bottle of fluid with you, pre-saturated wipes are the answer.  ITW and CleanTex have a variety of configurations combining their lint free wipes with their various cleaning fluids.

## ITW Chemtronics
### Chempad, Optic Prep, Electo-Wash MX & IPA Presaturated Wipes

- Chempad          - Ultra pure blend of 91% IPA and 9% deionized water.
- Optic Prep        - The highest quality pre-moistened lens-grade tissue for cleaning optical surfaces.
- Electro-Wash MX   - Extra-strength, plastic safe universal cleaner with moderate evaporation time.
- IPA               - Ultra pure mixture of 70% IPA and 30% deionized water

## CleanTex
### OpticPad, AlcoPad & TexPad Presaturated Wipes

The CleanTex line of presaturated products is conveniently packaged in hermetically-sealed foil pouches.

### Ordering Information

| Part # | Description | Qty |
|---|---|---|
| CP410 | ITW Chemtronics® Optic Prep™; Presaturated Lint-Free Optical Surface Wipe.  (4" x 8.25") | 30/Box |
| CP400 | ITW Chemtronics® Chempad™; General-Purpose, Presaturated 91/9 Lint-Free Wipe.  (3" x 4") | 50/Box |
| CP421 | ITW Chemtronics® Electro-Wash MX™.  8 x 10" Wipe, 25 wipes per box. | 25/Box |
| SIP100P | ITW Chemtronics® IPA; General-Purpose, Presaturated 70/30 Lint-Free Wipe.  (6" x 9") | 100/Tub |
| CT811 | CleanTex™ OpticPad® Presaturated Lint-Free Optical Surface Wipe. (5" x 7") | 100/Box |
| CT811Z | CleanTex™ OpticPad® Presaturated Lint-Free Optical Surface Wipe. (5" x 7") | 500/Box |
| CT806 | CleanTex™ AlcoPad® Electronic Component Wipe. (3" x 4") | 80/Box |
| CT806Z | CleanTex™ AlcoPad® Electronic Component Wipe. (3" x 4") | 250/Box |
| CT801 | CleanTex™ TexPad®. (3" x 4") | 80/Box |
| CT801Z | CleanTex™ TexPad®. (3" x 4") | 250/Box |

**CONSUMABLES**

# General Purpose Cleaning Swabs

Swabs assist in cleaning small and/or hard to reach items. The following swabs from ITW and Cleantex offer various sizes and materials to fit your application. Swabs with 1.25mm, 2.0mm or 2.5mm heads are typically used to clean sleeves/ferrules in a backplane and can be found in the Backplane Ferrule/Bulkhead Cleaning section of the catalog.
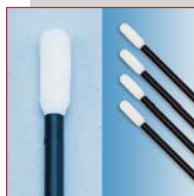
## ITW Chemtronics
**General Purpose Swabs**

### Ordering Information

| Part # | Description | Qty |
|---|---|---|
| CX50 | ITW Chemtronics® Flextips™; Foam Swab for Cleaning Optics. (6.3 x 20.5 mm) | 50/Bag |
| CXM50 | ITW Chemtronics® Flextips™; Mini Foam Swab for Cleaning Optics. (4.8 x 13.5 mm) | 50/Bag |
| 38540 | ITW Chemtronics® Sealed Non-Woven Polyester Swabs for Cleaning V-Grooves. (3.0 x 70 mm) | 500/Bag |
| 36060 | ITW Chemtronics® Sealed Non-Woven Polyester. (5.6 x 152 mm) | 500/Bag |
| 51121 | ITW Chemtronics® Pillow-Tip™ Swab for Cleaning Fusion Splicing Mirror. (5.8 x 76 mm) | 25/Box |
| 41050 | ITW Chemtronics® Foam Swabs. (3.6 x 70 mm) | 500/Bag |
| CS25 | ITW Chemtronics® Chemswab™ IPA Presaturated Foam Swabs. (12.7 x 25.4mm) | 25/Box |
| CT100 | ITW Chemtronics® Cottontips™; General Cleaning, Low-Lint Cotton Swab. | 100/Box |
| CT5000 | ITW Chemtronics® Cottontips™; General Cleaning, Low-Lint Cotton Swab. | 1000/Box |
| CT200 | ITW Chemtronics® Cottontips™; General Cleaning, Double-Sided Cotton Swab. | 100/Box |
| CT2000 | ITW Chemtronics® Cottontips™; General Cleaning, Double-Sided Cotton Swab. | 1000/Box |

## CleanTex
**General Purpose Swabs**

### Ordering Information

| Part # | Description | Qty |
|---|---|---|
| CT700A | CleanTex™ Foam Covered Cotton Bud, High Absorbency, Open-Cell Foam Swab. | 100/Bag |
| CT705 | CleanTex™ Wrapped Cotton Swab, High Absorbency, 100% Cotton Swab. | 100/Bag |
| CT706A | CleanTex™ Large Rectangular Head Over Thin Paddle, Closed-Cell Foam Swab. | 100/Bag |
| CT707A | CleanTex™ Large Rectangular Head Swab, Closed-Cell Foam Swab. | 100/Bag |
| CT709A | CleanTex™ Medium Rectangular Head Swab, Closed-Cell Foam Swab. | 100/Bag |
| CT710A | CleanTex™ Large Flexible Head Swab, Closed-Cell Foam Swab. | 100/Bag |
| CT813 | CleanTex™ Presaturated, Multiuse Swab. | 25/Bag |
| CT815 | CleanTex™ Presaturated, Keyboard Swab. | 25/Bag |

**CONSUMABLES**

# Canned Air

Canned air can be used to remove dust, dirt and contaminant as well as dry surfaces that have been cleaned with alcohol or some other cleaning fluid. Most optical applications require the cleanest of standards and ITW and Clean-Tex developed their products with this in mind. The products listed below are all highly filtered to ensure the least amount of particulates and moisture when using their canned air. There are less expensive options on the market, but these may not be suitable for optics.

## ITW Chemtronics UltraJet
### Precision Dusters

All ITW Chemtronics dusters are 100% ultra-pure HFC-134a filtered to 0.2 microns to leave no residue and are Ozone safe. The UltraJet series has the biggest blast and the All-Way dusters can be sprayed with the can held in any orientation, even upside down.

## Micro Care BigBlast & MicroBlast
### Precision Dusters

BigBlast™ and MicroBlast™ is the environmentally progressive answer for dry precision cleaning. This economical "canned air" is ultra pure, double filtered to 0.2 microns for the very best cleaning results. It also uses a special valve which doubles the "pushing power" when compared to old style dusters. Perhaps more importantly, the cleaner is non-flammable which means that unlike competing products, it can be safely used on energized equipment, making it ideal for speedy trouble shooting. The cleaner is also non-conductive, non-toxic, odor-free, non-corrosive and leaves no residue.

Available in two packaging options: one is the high-pressure blaster, and the other is a more economical spray that is StatZap™ compatible for better ESD control.

### Ordering Information

| Part # | Description |
|--------|-------------|
| ES1217 | ITW Chemtronics® Economical Duster. Regular Strength Canned Air, 8 oz can. |
| ES1017 | ITW Chemtronics® Economical Duster. Regular Strength Canned Air, 10 oz can. |
| ES1617 | ITW Chemtronics® Economical Duster. Regular Strength Canned Air, 12 oz can. |
| ES1027 | ITW Chemtronics® Economical Duster. Regular Strength Canned Air, 10 oz can. FLAMMABLE! |
| ES1029 | ITW Chemtronics® Economical Duster. High Power Canned Air, 10 oz can. FLAMMABLE! |
| ES1020 | ITW Chemtronics® Ultrajet®. High Power Canned Air. 10 oz can. |
| ES1015 | ITW Chemtronics® Ultrajet 70° Biggest Blast High Power Canned Air. 10 oz can |
| ES1620 | ITW Chemtronics® Ultrajet® All-Way. High Power Canned Air. 8 oz can. |
| ES1020K | ITW Chemtronics® Ultrajet® Duster System. Contains one Surgical Grade Chrome Trigger Valve (ES710V) and one 10 oz. Refill (ES1020R). |
| ES1020R | ITW Chemtronics® Ultrajet® Duster System 10 oz. Refill. |
| ES710V | ITW Chemtronics® Ultrajet® Duster System Chrome Trigger Calve. |
| MCC-AIR | Micro Care BigBlast™ Disposable, ozone safe, non-flammable duster, 14 oz. can. |
| MCC-AIRZ | Micro Care StatZap™ BigBlast™ Disposable, ozone safe, non-flammable duster, 14 oz. can. |
| MCC-DST | Micro Care MicroBlast™ Disposable, ozone safe, non-flammable duster, 10 oz. can. |
| MCC-DSTZ | Micro Care StatZap™ MicroBlast™ Disposable, ozone safe, non-flammable duster, 10 oz. can. |

**CONSUMABLES**

# Cleaning Kits

In most instances, fiber optic cleaning applications require multiple products.  AFL, ITW and Micro Care have created some kits to fit various applications and have packaged them to allow easy transportation and access.  Some of the AFL kits contain an inspection scope which is essential to verify that a connector end face is clean or not.  If you are dealing in high volume applications, please see the Westover CleanBlast section which combines cleaning and inspecting into one easy-to-use, automated system.

## Micro Care

### MCC-FK01 Portable Fiber Optic Cleaning Kit

The Portable Fiber Cleaning Kit includes some or all of the following in a zippered carrying pouch with handle:

| | |
|---|---|
| MCC-FCC03M | - 3oz can of Fiber Connector Cleaner (1) |
| MCC-FPF03M | - 3oz can of Fiber Preparation Fluid (1) |
| MCC-WFW | - 4x2" FiberWipes Lint Free Wipes, 90 per container (2) |
| MCC-FA1 | - 4x2" FiberAide Lint Free Wipes (25) |
| MCC-S25 | - 2.5mm Connector Cleaning Swabs, 50 per container (3) |
| MCC-S12 | - 1.25mm Connector Cleaning Swabs, 50 per container (2) |

## ITW Chemtronics

### CFK1000 & CFK1010 Portable Fiber Optic Cleaning Kits

The Portable Fiber Cleaning Kit includes some or all of the following in a zippered carrying pouch with handle:

| | |
|---|---|
| ES810 | - 5oz can of Electro-Wash® PX (1) |
| QBE or QBE-R | - Lintless Dry Wipe Cube (1) |
| 48042F | - 2.5mm Port Swabs (50) |
| 6704F | - 4x4" Lint Free Wipes (100) |
| CP421 | - Electro-Wash® MX Wipes (5) |

CFK1000 Additional Kit Items

| | |
|---|---|
| 51125F | - Splice Mirror Swabs (50) |
| 38542F | - V-Grove/Ferrule Swabs (50) |

### Ordering Information

| Part # | Description | Qty |
|---|---|---|
| MCC-FK01 | Micro Care Fiber Optic Cleaning Kit containing 1- Fiber Connector Cleaner (MCC-FCC03M), 1- Fiber Preparation Fluid (MCC-FPF03M), 2- FiberWipes Lint Free Wipes (MCC-WFW), 25- FiberAide Lint Free Wipes (MCC-FA1), 3- 2.5mm Connector Cleaning Swabs (MCC-S25), 2- 1.25mm Connector Cleaning Swabs (MCC-S12) in a Soft-Sided Case. | Kit |
| CFK1000 | ITW Chemtronics Fiber To The Home Cleaning Kit containing 1- QbE® Cleaning Platform, 1- Electro-Wash® Precision Fiber Optic Cleaner (ES810), 50- 2.5mm Foam Fiber Optic Swabs (48042F), 50- V-Groove & Ferrule Cleaning Swabs (38542F), 50- Fusion Splice Mirror Cleaning Swabs (51125F), 100- Lint Free Wipes (6704F), 5- Electro-Wash® MX Universal Cleaner wipes (CP421),  instructions and 1- Rugged Bag with carabineer attachment | Kit |
| CFK1010 | ITW Chemtronics Installation and Maintenance Cleaning Kit containing 1- QbE® Cleaning Platform, 1- Electro-Wash® Precision Fiber Optic Cleaner (ES810), 50- 2.5mm Foam Fiber Optic Swabs (48042F), 100- Lint Free Wipes (6704F), 5 - Electro-Wash® MX Universal Cleaner wipes (CP421), instructions and 1- Rugged Bag with carabineer attachment. | Kit |

CONSUMABLES

Specifications may change without notice

# Cleaning Kits

## AFL Telecommunications
### FCP1 Series Fiber Cleaning Kits

AFL Telecommunications offers a complete selection of Noyes brand fiber optic cleaning kits for field cleaning of connector end faces in fiber frames, adapters, and on jumpers.  Using their exclusive FCC2 non-hazardous cleaning fluid and CCT molded cleaning tips, the FCP1 Series of kits delivers compact, safe, easy to use, reliable cleaning for all types of fiber optic connector end  faces including Military and Multiple Fiber Ferrule designs.

- **Each kit consists of a wall or rack mountable carry case, FCC2 cleaning fluid, and  color-coded instructions.**
- **Each VS300 Scope includes 2.5mm Universal Cap**
- **Each stick is double ended, designed for two (2) cleanings**

### Ordering Information

| Part Number | CCTS-25-0900 40 pieces for FC, SC, ST adapters BLUE | CCTS-12-0900 40 pieces for LC, MU adapters GREEN | CCTS-16-0900 40 pieces for Mil sockets ORANGE | CCTP-25-0900 20 pieces for all connectors YELLOW | CCTX-MT-0900 20 pieces for MTP, MPO, MPX PINK | Cletop Type | VS300 View Safe Scope |
|---|---|---|---|---|---|---|---|
| **Soft Case Cleaning Kits** | | | | | | | |
| FCP1-00-0900 | 1 | 1 | | 2 | | A | |
| FCP1-00-0901 | 1 | | | 2 | | SB | |
| FCP1-00-0902 | 1 | | | 2 | | | |
| FCP1-00-0903 | 1 | 1 | 1 | 2 | 2 | | |
| FCP1-00-0904 | 1 | 1 | 2 | 6 | | | |
| FCP1-00-0905 | 1 | 1 | 1 | 2 | | SB | |
| FCP1-00-0906 | 1 | 1 | 1 | 2 | | | |
| FCP1-00-0907 | 3 | 1 | | 1 | 1 | | |
| FCP1-00-0908 | 3 | 1 | | 1 | 1 | SB | |
| FCP1-00-0909 | 3 | | | 1 | | | |
| FCP1-00-0912 | 5 | | | 1 | | | |
| FCP1-00-0913 | 3 | | | 1 | | SB | |
| FCP1-00-0914 | 2 | 1 | | 1 | | SB | |
| FCP1-00-0915 | 3 | 1 | 1 | 4 | 1 | | |
| FCP1-00-0916 | 1 | 1 | | 1 | | SB[1] | |
| FCP1-00-0924PZ | 2 | 2 | 2 | 2 | | | |
| FCP1-00-0926PZ [4] | 2 | 2 | | | | SB | |
| FCP1-00-0927PZ [5] | 2 | 1 | | 1 | | SB | |
| FCP1-01-0900 | 1 | | | 2 | | A | 1 |
| FCP1-01-0901 | 1 | | | 2 | | | 1 |
| FCP1-01-0902 | 1 | 1 | 1 | 2 | | SB | 1[2] |
| FCP1-01-0903 | 1 | 1 | 1 | 2 | | | 1[2] |
| FCP1-01-0904 | 2 | 2 | | 2 | | A | 1[2] |
| FCP1-01-0905 | 1 | 1 | | 2 | 1 | SB | 1 |
| **Hard Case Cleaning Kits** | | | | | | | |
| FCP1-02-0901PF [5] | 3 | 3 | | 2 | | SB | 1[3] |
| FCP1-02-0902PF [4,5] | 3 | 3 | | 2 | | SB | 1[3] |
| C182120 | Description: AFL Connector/Adapter Cleaning Kit.  Ships in a hard case with:  Cletop-SB (Qty=1), Replacement Reel for Cletop-SB (Qty=1), ACT-01 Cleaning Tips for 2.5mm adapters (Qty=20), Box of Kimwipes® lint free wipes (Qty=1), Can of Fiber Prep Cleaning Fluid (Qty=1). | | | | | | |

1  Includes SB replacement cartridge.
2  Includes 2.0mm and 1.25mm Universal Cap.
3  Includes 1.25mm Universal Cap.
4  Includes One-Click SC/FC/ST and One-Click LC/MU
5  Includes a tub of FiberWipes

**CONSUMABLES**

# Buffer & Coating Stripping

## Schleuniger

Schleuniger (pronounced SHLOI-NI-GER) is an international company headquartered in Switzerland.  Their equipment ranges from semi-automatic benchtop machines to fully automatic processing lines offering a wide range of innovative solutions for stripping, cutting, sealing, crimping and marking of all types of wire and cable, including single conductor wire, coaxial cable, glass and plastic optical cable, flat cable and multi-conductor cable, to name a few.  Their fiber optic line includes lightweight machines to strip buffered and coated fibers and larger machines to perform jacket stripping, Kevlar cutting and/or all of the above in one single unit.

"To Be Precise" is Schleuniger's commitment and goal in any matter.  To deliver first-class cable and wire processing solutions that cater to a variety of industries is one of thier two primary goals.  Together with Fiber Optic Center, we offer first-class service, and fast, competent customer support.

## Schleuniger

**FO-7030 & FO-7035** FiberStrip Buffer & Coating Stripping Machines

The FiberStrip 7030 strips individual coated and buffered fibers while the FiberStrip 7035 strips flat fiber ribbons.  Both machines are very compact and can be used in the field or in a high production environment.  They are the perfect complement to cleavers and fusion splicers for normal and high strength splicing.

The FiberStrip series, with its special blade geometry and integrated centering aid, ensures that contact with the glass fiber during the stripping process is not possible.  A poorly stripped fiber will have surface damage to the glass which will weaken it and lead to premature mechanical failure.  Using a high precision, repeatable stripping process is the only way to guarantee the quality of the end product.

A variety of optional quick-change clamping systems are available, allowing the machine to be adapted to hold the type of fiber being processed.  Adapters are available to allow the docking of fiber holders from many different fusion splicer manufacturers.

### Ordering Information

| Part Number | Description |
| --- | --- |
| FS-7030 | FiberStrip 7030 Automatic Buffer and Coating Stripper |
| FS-7035 | FiberStrip 7035 Multi-Fiber Automatic Buffer and Coating Stripper |

### FiberStrip Accessories

| Part Number | Cladding / Buffer | Part Number | Buffer |
| --- | --- | --- | --- |
| Blade Sets | | Centralizers | |
| FO3-F4-1710.A | 125um / 900um | FO3-F4-1709.A | 900um |
| FO3-F4-1710.M | 125um / 600um | FO3-F4-1709.M | 600um |
| FO3-F4-1710.B | 125um / 500um | FO3-F4-1709.B | 500um |
| FO3-F4-1710.K | 125um / 400um | FO3-F4-1709.E | 400um |
| FO3-F4-1710.D | 125um / 250um | FO3-F4-1709.D | 250um |
| FO3-F4-1710.C | 250um / 500um | FO3-F4-1709.F | 160um |
| FO3-F4-1710.E | 205um / 900um | | |
| FO3-F4-1710.F | 80um / 160um | | |

**PRODUCTION EQUIPMENT**

# Simplex Fiber Optic Cable Prep

**PRODUCTION EQUIPMENT**



## Schleuniger

### US-2545 UniStrip Pneumatic Wire & Cable Jacket Stripper

The UniStrip 2545 is a pneumatic wire and cable stripper specifically designed for jacket stripping of Glass Fiber Optic (GOF) cables and discrete wires up to 0.12" (3.2 mm) O.D. At a wire size range of AWG 14 - 32 (0.03 - 2.08 mm$^2$), the compact machine strips lengths from 1" - 1.8" (25 up to 45 mm).

Extremely short cycle times and easily adjustable stripping lengths and diameters boost productivity when building cable assemblies and other quick-change wire jobs. The versatility and precision of this semi-automatic stripper ensures productivity in a wide variety of applications. The UniStrip 2545 is a light, but nevertheless very precise machine and strips most insulation types with just one set of blades for greater efficiency.

Operating the UniStrip 2545 is extremely simple. After insertion, the cable makes contact with the sensor, which then actuates the visual controllable stripping process.

## Schleuniger

### FO-7010 FiberOptic Kevlar Cutting Machine

The low-cost FiberOptic 7010 cuts and removes the Kevlar material of fiber optic cables with complete accuracy to a remaining length between 0.12 and 2.36" (3 and 60 mm).

An efficient vacuum system, activated by means of a foot pedal, separates the Kevlar material from the optical conductor of the cable. The Kevlar is then positioned between the cutting head and anvil. The number of cutting strokes can be adapted to the thickness of the material by means of operating the foot pedal several times.

This extremely light benchtop machine is easy to operate and guarantees repeatable results and a precise cutting performance.

## Schleuniger

### FO-7045 FiberOptic Jacket, Kevlar and Coating Cutting and Stripping Machine

The FiberOptic 7045 is actually three machines in one. It combines the functions of the UniStrip 2545, FiberOptic 7010 and the FiberStrip 7030 in one integrated package.

Specifically designed for processing jacketed glass optical fibers (GOF), the FiberOptic 7045 provides for perfect stripping of the outer jacket, Kevlar cutting, as well as stripping of the secondary and primary coatings on all common single and multi-mode cables at a very short cycle time.

Cable programs can be changed in less than three seconds without any tooling or blade changes. Highest process quality with a zero reject rate and high productivity ensure the cost-effectiveness of this machine.

### Ordering Information

| Part Number | Description |
|---|---|
| US-2545 | UniStrip 2545 Pneumatic Wire & Cable Jacket Stripper |
| FO-7010 | FiberOptic 7010 Kevlar Cutting Machine |
| FO-7045 | FiberOptic 7045 Jacket, Kevlar and Coating Cutting and Stripping Machine |

# Variable Cable Prep

## Schleuniger

### PS-9500 PowerStrip Automatic Cut and Strip Machine

The fully programmable PowerStrip 9500 cuts and strips wires up to 0.55" (14 mm) in diameter with pull-off lengths up to 7.87" (200 mm). Its innovative design enables the processing of many types of applications ranging from standard cable to multi-conductor and flat ribbon cable.

The PowerStrip 9500 is a high-performance, efficient and modular wire and cable processing system that can be fully integrated into an automatic production line.

This powerful cutting and stripping machine impresses with precise and repeatable Schleuniger stripping quality, high processing speed and a vast range of processing possibilities.

The multiple blade system on the cutter head allows the use of up to 3 pairs of blades which can easily handle most cutting, stripping and slitting requirements.

There are various accessories available for the PowerStrip 9500. From basic pre / post processing equipment to high-end solutions for fully integrated inline processing, Schleuniger offers the right match for your production needs.

## Schleuniger

### OC-3950 OmniCut Automatic Cutting Machine

The OC 3950 is a fast and precise solution for measuring and cutting round wire, cable or tubing as well as flat ribbon cable. Programming and operating parameters are set using the user-friendly front panel. The OC 3950 can be used as a stand-alone cutter or as part of a Schleuniger wire processing system. The many features, options, and accessories make this a perfect fit for a diverse number of cut to length applications.

The OC 3950 can be configured with different blade materials (ex. tool steel [std.] for cutting copper wire or carbide for cutting fiber optic cable with Kevlar), optional length encoder, and an optional RS 232 interface for remote operation.

As a system cutter, the OC 3950 can be fully integrated with many other Schleuniger machines to match your systems needs. Typical system includes: Prefeeder, hot stamp or inket marking (non-stop), coiling or stacking, in-line integration with JacketStrip 8300 for automatic cutting, stripping and slitting either round or out-of-round cable.

## Ordering Information

| Part Number | Description |
| --- | --- |
| PS-9500 | PowerStrip 9500 Automatic Cut and Strip Machine |
| OC 3950 | OmniCut 3950 Automatic Cutting Machine |

**PRODUCTION EQUIPMENT**

# Pneumatic Crimping Machine

**PRODUCTION EQUIPMENT**

## Schleuniger

**CT32S** Pneumatic Crimping Machine

The CT 32S pneumatic crimper is ideal for loose-piece crimping applications. With the ability to deliver up to 3.2 metric tons of crimping force (at 6 bar), the CT 32S has plenty of crimping power for applications up to 6 AWG. The new spring loaded crimping head ensures proper terminal placement and promotes safe operation.

To improve safety, the new spring-loaded head will not allow the press to actuate if the dies are opened more than 0.250" (6.4 mm). The CT 32S can also be configured to accept all existing Schleuniger die sets and other name-brand die sets. The unit is very simple to operate and comes standard with a piece counter and a crimp speed control.

### Features & Benefits

- Crimping force up to 3.2 metric tons to crimp wires up to 6 AWG
- Spring-loaded crimping head with safety feature (CT32S)
- Full-cycle mechanism assures crimp cycle must be completed
- In-line crimping action
- Adjustable crimp height and variable crimping speed
- Standard piece counter
- Easy foot-pedal operation
- Accommodates the following die sets
    - All existing Schleuniger interchangeable die sets for open and closed barrel terminals
    - All existing indent crimp die sets for the CT32 and CT42
    - Die adapters available for the most common crimping dies

### Technical Specifications

| | |
|---|---|
| **Wire Size** | Up to 6 AWG |
| **Crimping Force** | 7,055 lbs. (3200 kg) |
| **Working Air Pressure** | 90 psi / 6 bar |
| **Maximum Stroke** | 0.78" (20 mm) |
| **Speed (cycles/min.)** | Up to 54 |
| **Crimp Action** | In-line |
| **Safety Shield** | Optional |
| **Weight** | 38 lbs. (17 kg) |
| **Dimensions** | 11 x 8.5 x 11.8" (280 x 215 x 300 mm) |
| **CE-Conformity** | The CT 32S fully complies with all CE and EMC equipment guidelines relative to mechanical and electrical safety and electromagnetic compatibility. |

### Ordering Information

| Part Number | Description |
|---|---|
| CT32S | Pneumatic Crimping Machine with new spring loaded head |
| CT32 | Pneumatic Crimping Machine |

# Epoxy Preparation

Epoxy performance is highly dependant on how it is prepared, dispensed and cured. To properly prepare a 2-part epoxy, you must have the proper ratio of resin to hardener and they must be mixed together evenly and completely. ÅngströmBond® 2-part packets provide the propper ratio and can be mixed by hand or with the Linex LX-9001 Automatic Bi-Pack Epoxy Mixer. The LX-9001 is an automated system designed to eliminate the human error that can occur at this step.

An often overlooked second step to epoxy preparation is de-gassing the recently mixed epoxy. The inherent nature of mixing introduces microscopic air bubbles into the epoxy. These air bubbles, visible and invisible to the naked eye, will lead to voids in the cured epoxy that can potentially cause failures. Running the recently mixed epoxy through a centrifuge, in its syringe, will remove these air bubbles and reduce the chance for epoxy failure.

When using an automatic dispensing machine, further costs can be saved and product consistency improved with either the pre-weighed packets or the premixed and frozen (PMF) packages. A system can be devised which can reduce operator variability to ensure the same amount of adhesive is injected each time. The unit will also decrease the repetitive motion that can sometimes lead to Carpal Tunnel Syndrome. Premixed and frozen can be packaged in an automatic cartridge that fits your dispensing machine, thus adding to the savings.

## LineX

### LX-9001 Automatic Bi-Pack Epoxy Mixer

The LX-9001 epoxy mixer offers rapid efficient mixing of 2 to 4 gram packaged epoxy with no waste. Other features include built in timer for accurate mixing cycles, attached syringe holder and stainless steel construction.

Size: 12.5" x 4" x 4.75"
Weight: 4 lbs

### Ordering Information

| Part Number | Description |
|---|---|
| LX-9001 | LineX Automatic Bi-Pack Epoxy Mixer. 110 V |
| LX-9001A | LineX Automatic Bi-Pack Epoxy Mixer. 220 V |

## Drucker

### 613B Centrifuge

De-gassing epoxy after mixing will ensure performance and increase yields. The Drucker 613B centrifuge is designed to work with test tubes but will also work with small 3cc syringes to eliminate the small, micro bubbles created during the epoxy mixing process.

### Technical Specifications

| Nominal Speed | 3100 rpm with six 15ml tubes |
|---|---|
| Nominal RCF | 1240 x G, Max. Volume: 90ml (6 x 15ml) |
| Operating Power | 115V, 60Hz, 120W |

### Ordering Information

| Part Number | Description |
|---|---|
| DRUCKER 613B | Drucker Model 613B Centrifuge. Comes with Tubes and Bumpers. |

PRODUCTION EQUIPMENT

Specifications may change without notice

# Epoxy Dispensing

## Fishman

### LDS900™ LDAV Airfree™ Volumetric Epoxy Dispenser

Linear Dispensing Systems™-- The LDS technology gives you the accurate and repeatable method of positive displacement you want without the headache of pneumatic systems. No need to flush chambers or valves.  Formulations stay untouched in safe, silicone-free syringes with this revolutionary new system.  Change fluids or volumes with ease.

Unlike pneumatic machines, this intelligent dispensing system knows the syringe size, volume, and the dispense rate.  The result is process control that is unachievable with pneumatic systems.

## Features & Benefits

- No Air-Electromechanical linear drive system
- Two year fault free warranty
- PosiLok™ connector
- 10 memory locations
- For use with 3, 5, 10 or 30cc syringes
- Inert all-plastic fluid container

## Technical Specifications

| | |
|---|---|
| **Input Voltage** | 100 to 240 VAC |
| **Control Unit Size** | 5.3" x 8.75" x 7.25" (8.9 x 22.3 x 18.4 cm) |
| **Dispensing Gun Length** | 8.5" (21.6 cm) |

## Ordering Information

| Part Number | Description |
|---|---|
| D113511 | LDS9000 LDAV Linear Displacement Volumetric Epoxy Dispenser.  Includes Z5DA119 (19 gauge needles), Z5DA120 (20 gauge needles), O122051 (3cc barrels with pistons), O050051 (white tip caps). |

## Disposable Dispensing Components

| Part # | Description | Bulk (sold in bags of 1k, 5k or 25k) |
|---|---|---|
| O122051 | 3CC Barrel with Pistons - 50/box | A862451 (includes tip caps) |
| O012131 | 3CC Barrel - 50/box | -- |
| O112051 | 3CC PosiLok Piston - 50/box | -- |
| O123131 | 5CC Barrel with Pistons - 40/box | A863451 (includes tip caps) |
| O013131 | 5CC Barrel - 40/box | -- |
| O113131 | 5CC PosiLok Piston - 40/box | -- |
| O050051 | White Tip Caps - 50/box | A600031 |
| Z5DA119 | 19 Gauge, HiFlow Metal Dispensing Needle (.75 in.) - 50/box | E01Z101 |
| Z5DA120 | 20 Gauge, HiFlow Metal Dispensing Needle (.75 in.) - 50/box | E01Z091 |
| Z5D3120 | 20 Gauge, HiFlow Metal Dispensing Needle (1.0 in.) - 50/box | E01K091 |

## Miscellaneous

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| N60441008 | Lead Screw Lubricant | A890C21 | Venting Ribbons - 20/pack |
| DXX0000 | Gun Maintenance Kit | | |

PRODUCTION EQUIPMENT

Specifications may change without notice

# Epoxy Dispensing

## I&J Fisnar

**FO-12-DSP501LF** Pneumatic Dispensing Machine

Features a larger internal air solenoid which is recommended for operations that require an immediate and fast reaction for de-pressurization.  The higher volume exhaust prevents post compression of materials contained in tubes, avoiding stringing.  Suitable for all types of fluids, includes a suck-back feature to ensure low viscosity liquids do not drip.  Timing intervals from 0.01 to 31 seconds.

### Features & Benefits

- Dispense timer
- Suitable for tube dispensing
- Barrel suck-back ensures no dripping
- Large solenoid air exhaust

### Technical Specifications

| | |
|---|---|
| **Size** | 8.63" x 8.50" x 2.63" (21.92 x 21.59 x 6.68 cm) |
| **Dispense Time** | 0.01 - 31 seconds |
| **Cycle** | Momentary with time or continuously maintained |
| **Air input** | 70 to 100 psi (5 to 7 bar) |
| **Air output** | 1 to 100 psi (0.1 to bar) |
| **Voltage** | 110 VAC & 220 VAC |
| **Internal voltage** | 24 VDC |
| **Weight** | 4.125 lbs (1.87 kg) |

### Ordering Information

| Part Number | Description |
|---|---|
| FO-12-DSP501LF | Pneumatic Dispensing Machine.  Must specify 3cc, 10cc or 30cc adaptor kit at time of order. |

### Disposable Dispensing Components

| Part Number | Description |
|---|---|
| 560036 | 3CC Barrel - 10/Bag |
| H560667 | 3CC Pistons - 50/Bag |
| 560037A | 3CC Barrel Adapter Assembly |
| 580142 | White Tip Caps - 10/Bag |
| 560963-1 | 19 Gauge Metal Dispensing Needle (1.0 in.) - 25/Bag |
| 560088A-1 | 20 Gauge Metal Dispensing Needle (1.0 in.) - 25/Bag |

**PRODUCTION EQUIPMENT**

## Epoxy Dispensing

**PRODUCTION EQUIPMENT**



## Tridak

**Micro-Dot**  Manual Syringe Dispenser

The Tridak Micro-Dot hand-held syringe dispenser delivers accurate and consistent fluid deposits from pre-packed 10 mL disposable syringes. This portable syringe dispenser can be set to dispense a wide range of fluid shot volumes. Once a volume is set, it can be repeated indefinitely with acute consistency. The Micro-Dot dispenser is light weight, thumb actuated, and can be used in any environment. Tridak molded taper tips are recommended for achieving the most accurate shot size.

### Features & Benefits

- Portable, hand-held dispenser with positive displacement accuracy
- Accepts pre-packaged 10cc syringes
- Dispenses a wide range of fluids from low to high viscosities
- Adjustable dot size
- Plastic taper tip recommended for most accurate dispensing
- Compact and light weight, thumb pressure actuation

### Technical Specifications

| | |
|---|---|
| **Dispenser Type** | Manual positive displacement |
| **Weight (without syringe)** | 2.8 oz. (81.3 g) |
| **Dimensions (L x W x H)** | 4.5" x .87" x 2.125" (114mm x 22mm x 54mm) |
| **Minimum Shot Size** | .0002 g (25-gauge dispnse tip) |
| **Maximum Shot Size** | .25 g (15-gauge dispense tip) |

### Ordering Information

| Part Number | Description |
|---|---|
| STA0600-1000 | Tridak Micro-Dot Hand-held Epoxy Dispenser |

# Epoxy Curing Ovens



## LineX

### **LX-9000** Series Precision Fiber Optic Curing Oven

Ultra precise temperature control with uniform heat for precision curing. Built in curing timer with alarm. Up to 48 connector capacity. Horizontal or vertical curing. Stainless steel construction.

Size: 12" x 4" x 5"
Weight: 8 lbs.

### Features & Benefits

- Stainless Steel Construction
- Microprocessor Controlled
- Variable Timer
- Maximum Capacity 48 - Connectors

- Fast Soak Time
- Multiple Connector Configurations
- Cycle Complete Indicator

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| LX-9010 | 120 VAC Curing Oven | LX-9011 | 220 VAC Curing Oven |

### Connector Blocks

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| LX-9010-1 | SC 36 Port Curing Block | LX-9010-4 | Mil Spec Pin/Socket, 1.25mm 48 Port Curing Block |
| LX-9010-2 | ST, FC, D4, MT 48 Port Curing Block | LX-9010-5 | SMA 48 Port Curing Block |
| LX-9010-3 | LC 48 Port Curing Block | | |



## Fibertron

### **Multi-Cure** Fiber Optic Curing Oven

The Multi-Cure II's adjustable thermostat controls the curing temperature over a range of 65°C to 125°C permitting the epoxy to cure at a lower temperature for longer periods of time (e.g., 100°C for 15 minutes).

Power receptacle, switch, and fuse module is UL, CSA, and TUV approved. The 240V model is CE approved.

Size: 5.25" x 6.5" x 3.5"
Weight: 4 lbs.

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 9551 | 120 VAC heater with 9050 SC/ST/SMA/FC/D4 connector block | 9561-EU | 240 VAC heater with 9050 SC/ST/SMA/FC/D4 connector block |

### Connector Blocks & Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 9050 | 24 ST/SMA/FC/D4 cavities on top and 24 SC cavities on bottom | 9060 | 20 Biconic cavities on top and 20 ST cavities on bottom |
| 9080 | 38999 ferrules, mil connectors, pins and sockets - 14 horizontal cavities | FTQ4 | Fibertron Thermometer For Oven |

**PRODUCTION EQUIPMENT**

Specifications may change without notice

# Epoxy Spot Curing

## iCure™
### AS200 Thermal Spot Curing System

The iCure AS200 is a thermal spot curing system that uses light to generate thermal energy to cure conventional heat cure adhesives. The unit provides a versatile and cost effective solution that delivers high optical energy with a significant amount of Infra Red radiation that is readily absorbed by thermal adhesives resulting in faster and stronger cures. A sophisticated on board micro-processor monitors system performance, allows for a user friendly flexible interface and offers a range of reporting features.

### Features & Benefits

- Reduce curing time by over 75%
- 200 W lamp with up to 80 W/cm$^2$
- Significant infrared contribution where heat cure adhesives have the most absorption
- SmartSense™ system monitoring to extend lamp life and performance
- Wide, state of the art touch screen with intuitive graphical user interface
- Can be used as benchtop or rackmount (self-orienting display)
- Hot strike prevention to protect lamp
- Shutter with 100ms response time

### Technical Specifications

| | |
|---|---|
| Lamp | 200 Watt  UHP Mercury Vapor Arc |
| Rated Lamp Life | > 1000 hours (continuous operation) |
| Optical Spectrum | 400 - 3600nm |
| Output Irradiance | Full optical spectrum, 80 W/cm$^2$ |
| Lightguide | 1m length, 3.6mm diameter output (other configurations available) |
| Lightguide Bend Radius | 10 cm |
| Spot Size | 3.6 mm at the output of the lightguide |
| Warm-up Period | 90 seconds (typical) |
| Power | 85-240 VAC 50/60 Hz |
| Control Panel | Touch Screen |
| Dimensions (L x W x H) | 13.3" x 7.1" x 7.9" (33.8cm x 18cm x 20.1cm) |
| Weight | 9.9 lbs (4.5 kg) |

### Ordering Information

| Part Number | Description |
|---|---|
| AS200 | iCure AS200 Thermal Spot Curing System |

**PRODUCTION EQUIPMENT**

# UV Spot Curing

## Dymax
### BlueWave 200

The BlueWave® 200 UV curing spot lamp offers the highest intensity and simplest operation in the industry. A new patent pending intensity adjustment feature allows operators to manually adjust intensity during process validation and production. Users can now maintain a constant intensity by manually increasing intensity to compensate for bulb degradation.

### BlueWave 50AS

The BlueWave® 50 AS UV curing spot lamp is economical and simple to operate. It emits primarily UVA and blue visible light (300-450 nm) and is designed for UV curable adhesives, UV curable coatings, and UV curable encapsulants.

## Agiltron
### SUVL

This Solid State UV Light uses high power UV LED as light source, providing low cost, long operation life, low power consumption, and compact size advantages over traditional lamp based alternatives. Agiltron's design achieves high light coupling efficiency exceeding 85% and well-distributed light spot intensity. The exposure time and UV light power are adjustable.

The device can be switched on/off by both a finger push button and a foot press switch Multiple UV curing headers and battery power versions are also available. This light source is designed to conveniently and economically cure UV epoxy of various types.

### Technical Specifications

| Model | BlueWave 200 | BlueWave 50AS | Agiltron SUVL |
|---|---|---|---|
| UV Intensity | 17,000 mW/cm$^2$ | 3,000 mW/cm$^2$ | 1,800 mW/cm$^2$ |
| Bulb Life | 2,000 hrs | 2,000 hrs | 30,000 hrs |
| Replaceable Bulb | Yes | Yes | No |

### Ordering Information

| Part Number | Description |
|---|---|
| 38905 | Dymax BlueWave 200 UV Curing Spot Lamp with Foot Switch |
| 39370 | Dymax BlueWave 50AS UV Curing Spot Lamp with Foot Switch |
| SUVL-011110000 | Agiltron UV Curing LED Spot Lamp (365nm) |
| SUVL-011110001 | Agiltron UV Curing LED Spot Lamp (365nm) with Foot Switch |
| SUVL-012110000 | Agiltron UV Curing LED Spot Lamp (385nm) |
| SUVL-012110001 | Agiltron UV Curing LED Spot Lamp (385nm) with Foot Switch |

**PRODUCTION EQUIPMENT**

# UV Flood Lamps

**PRODUCTION EQUIPMENT**

## Dymax
### 5000-EC

The DYMAX 5000-EC Series UV curing flood lamps are designed for high-intensity, rapid UV curing of UV adhesives, UV coatings, and UV inks. 5000-EC UV curing lamps are designed for processes requiring higher-intensity UV light concentrated in a narrow 5" x 5" area. The 5000-EC series UV flood lamps deliver concentrated light primarily in the UV-A range (320-390 nm wavelength) to achieve maximum UV cure depths and "tack-free" cures, typically in 10-30 seconds. DYMAX UV flood lamps provide low-cost cures for bonded or coated areas larger than 1/2 inch2 or can be used for small batch processing or conveyor-mounted UV curing.

### 2000-EC

The DYMAX 2000-EC Series UV curing flood lamps are designed for general purpose, low-intensity UV curing of UV adhesives, UV coatings, and UV inks. A DYMAX 2000-EC UV flood lamp is equipped with internal filters which effectively limit output to longwave, worker-friendly ultraviolet energy. The 64-square-inch curing area of the 2000-EC Series UV flood lights make them well suited for laboratory production and large-batch processing.

## Agiltron
### SUVH

Agiltron's hand held LED UV flood light generates a large diameter UV beam with high power intensity for epoxy curing. It offers desirable features of light weight, compact size, low power consumption, long operating life without the need to change light bulb, and low cost. Its selective emission wavelength produces highly efficient fast curing by using matching UV epoxy. The unit is able to operate continuously with adjustable exposure time and UV light power.

### Technical Specifications

| Model | 5000-EC | 2000-EC | Agiltron SUVH |
|---|---|---|---|
| UV Intensity | 225 mW/cm$^2$ | 75 mW/cm$^2$ | 1,200 mW/cm$^2$ |
| Curing Area | 5" x 5" | 8" x 8" | 2" x 4" |
| Working Distance | 2" - 6" | 2" - 6" | 4" - 8" |
| Bulb Life | 2,000 hrs | 2,000 hrs | 40,000 hrs |
| Replaceable Bulb | Yes | Yes | No |

### Dymax Ordering Information

| Type | 5000-EC | 2000-EC |
|---|---|---|
| Modular (no shileding or shutter) | 38100 | 38105 |
| With Mounting Stand & Small Shield | 39830 | 39730 |
| With Light Shield | 39820 | 39720 |
| With Light Shield & Manual Shutter | 39823 | 39723 |
| With Light Sheield & Zip Shutter | 39821 | 39721 |

### Agiltron Ordering Information

| Type | 380nm | 400nm |
|---|---|---|
| Without Foot Switch | SUVH-011110000 | SUVH-012110000 |
| With Foot Switch | SUVH-011110001 | SUVH-012110001 |

# Laser Scribing

## Sagitta Comet
### Laser Cleaving System for Optical Connector Processing

Introducing the industry's first Laser Cleaving System for Optical Connector Processing. Sagitta's new laser-based cleaving system eliminates tedious manual steps in your connector terminating process.  Proprietary laser and optics, integrated with automated servo controls, precisely cleaves the fiber and removes the epoxy material above the ferrule pedestal, ensuring consistent cleaves with unparalleled repeatability.  Internal fume vents and scrubbing systems ensures complete evacuation of outgases, debris and fiber.

### Quality & Reliability

- Consistent cleave height with no dependence on epoxy bead size or cleave skill
- Eliminate operator and tool dependent cleave quality
- Eliminate multimode fiber "core cracking"
- Closer cleave (compared to manual)
- Easily cleaves large core and unconventional fiber types

### Labor & Material Savings

- Eliminate epoxy removal step and possible subsequent steps (Achievable on step process)
- Improved yields
- Higher throughput
- Eliminate scribe blade wear-out
- Reduced employee training

### Technical Specifications

| | |
|---|---|
| **Simplex Connectors Supported** | 2.5mm and 1.25mm ferrules; Flat, Pre-radiused, or Pre-angled; APC ferrules: step, cone or pencil; Bare ferrule or assembled; Fiber Stubs (fiber in ferrule) |
| **Multi-fiber Connectors Supported** | MTRJ, MTP (8, 12 or 24 fiber) |
| **Cleave Throughout** | 720 UPH |
| **Cleave Cycle Time** | < 5 sec |
| **Changeover Time (between connector types)** | < 1 min |
| **Allowable protrusion from connector ferrule** | 1mm to 15mm |
| **Cleave Accuracy (Simplex)** | ± 25 µm (Simplex) |
| **Cleave Accuracy (MT)** | ± 25 µm (MT) |
| **Laser Safety** | Class I product (FDA, EC) |
| **General Safety** | UL, CE |
| **Power** | 100 to 240V AC, 50 to 60 Hz |
| **Operating Temp Range** | 10ºC to 35ºC |
| **Material** | Aluminum, Hard anodized coated |
| **Dimensions (W x D x H)** | 27" x 20" x 11"<br>700mm x 500mm x 280mm |

**PRODUCTION EQUIPMENT**

Specifications may change without notice

## Laser Scribing

### Ordering Information

| Part Number | Description |
| --- | --- |
| LCS-720-01S | Comet Laser Cleaving System for Simplex Connectors including Two Connector Adapters |
| LCS-920-01M | Comet Laser Cleaving System for MT and Simplex Connectors including Two Connector Adapters |

### Adapters and Accessories

| Part # | Description | Part # | Description |
| --- | --- | --- | --- |
| LCS-123-BF250 | 2.5mm Bare Ferrule Adapter | LCS-123-BF125 | 1.25mm Bare Ferrule Adapter |
| LCS-252-FC | FC Connector Adapter | LCS-253-ST | ST Connector Adapter |
| LCS-251-SC | SC Connector Adapter | LCS-255-SCB | SC Body Connector Adapter |
| LCS-121-LC | LC Connector Adapter | LCS-122-MU | MU Connector Adapter |
| LCS-451-MTRJ | MT-RJ Connector Adapter | LCS-612-MTP | MT Connector Adapter |
| LCS-254-E2K | E2000 Connector Adapter | LCS-810-MON | Monitor with integral Camera/LCD System |

**PRODUCTION EQUIPMENT**

# Polishing Machines

Fiber Optic Center offers polishing machines from top manufacturers with a variety of designs to handle any application.  For the field, for research and development or for high volume production, we can recommend, install and support the right machine for the job.  For example, the ability to adjust time, speed and pressure is preferable on a process development machine, while the ability to set and lock these same variables would be preferred on a machine used in production.

## Field Machines

Field Machines need to be small, lightweight and run off their own power supply.  These machines are set up to polish just a few connectors at a time, as volume is typically not a concern.  Some machines are specifically designed to only perform minor repair work on damaged connectors.

## Research and Development

Polishing machines for R&D may not need the capacity of a production machine but they do need the integrity to maintain tight, variable control on time, speed and pressure.  These settings have precise controls to give the user the flexibility necessary for complete process development.

## Production

Designed for continuous use, these machines, along with the right process, can consistently deliver high volume output with near perfect yields.  Time, speed and pressure controls are easily set and locked, allowing the user to simply follow a pre-determined process.  Some machines can automatically adjust pressure with real time feedback.  Others take automation a step further with CPU control and LCD touch screens.  These units can securely store multiple processes which display instructions at each step along with automatically configuring the machine's various settings.  With each step fully defined and stored in the machine, process deviation is kept at the lowest possible level.

## Support and Service

We have a technical staff with actual production experience to assist you in your machine selection and to help you develop a process to go along with it.  If you would like a demonstration, we invite you to come and visit the FOC lab equipped with all the latest technology or we may be able to arrange a demo to be shipped to your facility.  We also offer training services, again either in our lab or at your facility.  If you purchase a machine from us, we will make sure it performs to your expectation upon delivery and will continue to offer our support should any future issues arise.

**PRODUCTION EQUIPMENT**

# Seikoh Giken Polishing Machines

## SFP-550 Series

Powerful and ruggedly constructed, the patented SFP-550 Series polishing machines are ideal for high volume production applications. Industry known as the workhorse for standard connectors, they deliver precise processing and high throughput reliably, with low maintenance requirements. Using recommended processes, it meets the most demanding specifications of domestic and international standards bodies. All plates, films and pads for the SFP-550 Series are interchangeable between the 550, 550S and 550E.

### Features & Benefits

- Designed for high volume applications
- Quick change tooling
- Accommodates most connector styles
- Super centering accuracy
- Back reflection: UPC -60dB / APC -70dB (typ.)

- Insertion Loss: 0.2dB (typ.)
- Low Undercut
- Excellent endface geometry
- SG Patented rotation & revolution method
- Utilizes I.P.C. holder technology

## SFP-550
### High Volume Polishing Machine

Seikoh Giken's most reasonably priced model with basic features from their top of the line models. Originally designed for the proprietary IPC (Individual Pressure Control) system, this polisher offers even pressure to each ferrule regardless of its protrusion length while achieving stable, high-quality mass-polishing output. Highly recommended for multi-installation, large scale cable production factories.

## SFP-550S
### High Volume, PC Based Polishing Machine

Building on the SFP-550 platform, the SFP-550S features a full function LCD touch panel for simplified programming of various polishing processes. Additionally, it features a slow start function, programmable turntable speed controller and voltage-free power input for world-wide versatile installation. Best for use in high volume mass production environments where critical geometry performance is required.

## SFP-550E
### High Volume, 4 Timer Polishing Machine

Offering features found in the SPF-550S, this model features 4 unique timers instead of a touch panel while still providing mass production, adaptability and versatility. This allows for simple programming and operation and reduces operator error. It also features speed control of the turntable and voltage-free power input.

**PRODUCTION EQUIPMENT**

# Seikoh Giken Polishing Machines

## SFP-550 Polishing Machine Kits

All Seikoh Giken polishing machines are sold in kits so they are ready to polish right out of the box.  See below for the machine part number and their respective kits.

### Ordering Information

| Part Number | Description |
|---|---|
| SFP-550 | SFP-550 Polishing Machine Including Standard Accessories Kit |
| SFP-550S | SFP-550S Polishing Machine Including Standard Accessories Kit |
| SFP-550E | SFP-550E Polishing Machine Including Standard Accessories Kit |

### Standard Accessories Kit

| Part # | Description | Qty | Part # | Description | Qty |
|---|---|---|---|---|---|
| FP-IM12 | Operating Manual | 1 | FP-PM12 | Process Manual | 1 |
| FP-MM12 | Maintenance Manual | 1 | FP-F2A | 2 Amp Fuse | 2 |
| FP-TS | Hexagon Wrench | 1 | FP-CH | Cable Hanger | 1 |
| PS5X-500-00 | 5.0mm Sponge Pad | 3 | PR5X-500-80 | 5.0mm Rubber Pad | 3 |
| GA5D | Adhesive Removal | 50 | DR5D-9u | Rough Polish Film | 2 |
| DJ5D-1u | Middle Polish Film | 2 | XF5D | Final Polish Film | 10 |
| FP-CS55 | Coil Spring | 4 | | | |
| **SFP-550 Only** | | | | | |
| PR5X-500-85 | 5.0mm Rubber Pad | 3 | | | |
| **SFP-550S & 550E Only** | | | | | |
| PR5X-500-90 | 5.0mm Rubber Pad | 1 | PR5X-508-90 | 5.8mm Rubber Pad | 1 |
| PR5X-480-80 | 4.8mm Rubber Pad | 1 | PL50 | Polishing Liquid | 1 |

### 5" Rubber Pads (sets of 3)

| Durometer | Thickness | | | | | |
|---|---|---|---|---|---|---|
| | 5.0mm | 2.5mm | 4.5mm | 4.8mm | 5.05mm | 5.08mm |
| 95 | PR5X-500-95 | -- | -- | -- | -- | -- |
| 90 | PR5X-500-90 | PR5X-250-90 | PR5X-450-90 | PR5X-480-90 | -- | -- |
| 85 | PR5X-500-85 | -- | -- | -- | -- | -- |
| 80 | PR5X-500-80 | PR5X-250-80 | -- | PR5X-480-80 | PR5X-505-80 | -- |
| 75 | PR5X-500-75 | -- | -- | -- | -- | -- |
| 70 | PR5X-500-70 | PR5X-250-70 | -- | PR5X-480-70 | PR5X-505-70 | -- |
| 65 | PR5X-500-65 | -- | -- | -- | -- | -- |
| 60 | PR5X-500-60 | PR5X-250-60 | -- | -- | -- | -- |
| 50 | -- | PR5X-250-50 | -- | -- | -- | -- |
| 40 | -- | -- | -- | -- | -- | PR5X-508-40 |

### 5" Glass Plates (sets of 3)

| Thickness | | | | | | |
|---|---|---|---|---|---|---|
| 5.0mm | 4.9mm | 4.8mm | 4.5mm | 4.0mm | 3.5mm | 2.4mm |
| PG5X-500-00 | PG5X-490-00 | PG5X-480-00 | -- | -- | -- | PG5X-240-00 |
| -- | PG5X-490-MT | -- | PG5X-450-MT | PG5X-400-MT | PG5X-350-MT | -- |

- 00 suffix denotes the standard, rubber backed glass pad
- MT suffix denotes the non-rubber backed glass pad for MT processes

**PRODUCTION EQUIPMENT**

## Seikoh Giken Polishing Machines

**PRODUCTION EQUIPMENT**

### SFP-550 Mega-Axis Polishing Fixtures

#### High Volume - IPC*

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PH55-PL-48 | LC - 48 Pos | PH55-EF8A-40N-R | E2000/APC - R&M - 40 Pos |
| PH55-PL-40 | LC - 40 Pos | PH55-PL8A-40N | LC/APC - 40 Pos |
| PH55-PM-40N | MU - 40 Pos | PH55-CP-32 | SC - 32 Pos |
| PH55-CP8A-32N | SC/APC step - 32 Pos | PH55-CP8C-32N | SC/APC conical - 32 Pos |
| PH55-FLM-40N | MU or LC Ferrule - 40 Pos | PH55-FF-40N | 2.5mm Ferrule - 40 Pos |
| PH55-FF8A-40N-1.5 | 2.5mm/APC Step Ferrule 1.5mm Flange - 40 Pos | PH55-FF8A-40N-1.3 | 2.5mm/APC Step Ferrule 1.3mm Flange - 40 Pos |
| PH55-FF8C-40N-1.5 | 2.5mm/APC Conical Ferrule 1.5mm Flange - 40 Pos | PH55-FF8C-40N-1.3 | 2.5mm/APC Conical Ferrule 1.3mm Flange - 40 Pos |
| PH55-MT-24 | MT Inner Holder - 24 Pos | **Requires the PH55-HMT-24 outer holder** | |

#### Standard - IPC*

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PH55-PL-24 | LC - 24 Pos | PH55-PL8A-20 | LC/APC - 20 Pos |
| PH55-PM-24 | MU - 24 Pos | PH55-PM8A-20 | MU/APC - 20 Pos |
| PH55-SP-20 | ST - 20 Pos | PH55-CP-20 | SC - 20 Pos |
| PH55-CP8A-18 | SC/APC step - 18 Pos | PH55-CP8C-18 | SC/APC conical - 18 Pos |
| PH55-FP-20 | FC - 20 Pos | PH55-EF-18-H | E2000 - Hubher & Suhner - 18 Pos |
| PH55-FP8R-18-I | FC/APC step - narrow key - 18 Pos | PH55-FP8N-18-I | FC/APC step - wide key - 18 Pos |
| PH55-FP8RC-18-I | FC/APC conical - narrow key - 18 Pos | PH55-FP8NC-18-I | FC/APC conical - wide key - 18 Pos |
| PH55-FLM-16 | 1.25mm Ferrule - 16 Pos | PH55-FF-20 | 2.5mm Ferrule - 20 Pos |
| PH55-FF8A-18-1.5 | 2.5mm/APC Step Ferrule 1.5mm Flange - 18 Pos | PH55-FF8A-18-1.3 | 2.5mm/APC Step Ferrule 1.3mm Flange - 18 Pos |
| PH55-FF8C-18-1.5 | 2.5mm/APC Conical Ferrule 1.5mm Flange - 18 Pos | PH55-FF8C-18-1.3 | 2.5mm/APC Conical Ferrule 1.3mm Flange - 18 Pos |
| PH55-F0262-910 | LX.5/APC - 12 Pos | PH55-F0332-540 | ITT 1.25mm MIL Ferrule - 16 Pos |
| PH55-LX58AC-12 | LX.5/APC Conical - 12 Pos | PH55-LX58A-12 | LX.5/APC Special Conical - 12 Pos |
| PH55-M5P-12 | 905 SMA - 12 Pos | PH55-M5P-18 | 905 SMA - 18 Pos |
| PH55-F0332-970 | 905 SMA/APC - 12 Pos | PH55-F0332-960 | 905 SMA/APC - 18 Pos |
| PH55-EF-18-R | E2000 - R&M - 18 Pos | PH55-EF8A-18-R | E2000/APC - R&M - 18 Pos |
| PH55-FLM-16 | MU or LC Ferrule - 16 Pos | PH55-EF8A-24-R | E2000/APC - R&M - 18 Pos |
| **MT & MTRJ Fixtures (each inner holder requires the PH55-HMT-12C outer holder for operation)** | | | |
| PH55-HMT-12C | MT Universal Outer Holder | PH55-MTRJ-12 | MTRJ Inner Holder - 12 Pos |
| PH55-MT-12 | MT Inner Holder - 12 Pos | PH55-MT8A-12 | MT/APC Inner Holder - 12 Pos |

*Seikoh Giken's Independent Pressure Control (IPC) Connector Plates allow the operator to use any of the plate's ports in any configuration.  Most plates require the connectors to be placed in a symmetrical pattern to produce even polishes.  With IPC plates, ferrules are given even polishes regardless of how they are placed in the plate.

# Seikoh Giken Polishing Machines

## SFP-70D & SFP-70D2 Series
### Low Volume, Field Use Polishing Machines

The SFP-70D and 70D2 machines are designed for low-volume production, reworking or research applications. Their compact, lightweight designs and optional battery packs make them ideal for use in the field as well.  Both machines are capable of polishing most major connectors with both UPC and APC finishes.

### Features & Benefits

- High performance for a variety of apps
- Ergonomic, simple design for ease-of-use
- Small size for high portability in the lab or field
- Perfect for research or low volume reworks
- Short cycle times - typically 2 min. for reworks

- Can polish up to 6 connectors (SFP-70D)
- Can polish up to 2 connectors (SFP-70D2)
- Compatible with all major connector styles
- Utilizes I.P.C. holder technology
- SG Patented rotation & revolution method

### Ordering Information

| Part Number | Description |
|---|---|
| SFP-70D | SFP-70D Polishing Machine Including Standard Accessories Kit |
| SFP-70D2 | SFP-70D2 Polishing Machine Including Standard Accessories Kit |
| FP-CB07 | SFP-70D & SFP-70D2 Transit Case (sold separately) |
| ENABP1600 | SFP-70D & SFP-70D2 Battery Power Kit (sold separately) |

### Standard Accessories Kit

| Part # | Description | Qty | Part # | Description | Qty |
|---|---|---|---|---|---|
| N/A | Operating Manual | 1 | FP-HR | Cable Holder | 1 |
| FP-TS | Allen Wrench Set | 1 | FP-F1A | 1 Amp Fuse | 10 |
| AD20 | AC/DC Adapter | 1 | FP-DST | Double Sided Tape | 1 |
| PR07-500 | Rubber Pad | 4 | PG07-490 | Glass Pad | 2 |
| GA07 | Adhesive Removal | 20 | DR07-9u | Rough Polish film | 2 |
| DH07-3u | Middle Polish film | 2 | XF07 | Final Polish film | 20 |
| FP-GS | Grease | 1 | | | |
| **SFP-70D Only** | | | | | |
| FP-WB | Plastic Water Bottle | 2 | SP07-005 | 0.05mm Spacer Film | 2 |

### 70mm Rubber Pads & Glass Plates (sets of 3)

| Durometer | Thickness | | | |
|---|---|---|---|---|
| | **5.05mm** | **5.0mm** | **4.9mm** | **4.8mm** |
| 70 | -- | PR07-500-70 | -- | -- |
| 80 | PR07-505 | PR07-500-80 | -- | PR07-480 |
| 90 | -- | PR07-500-90 | -- | -- |
| Glass | -- | -- | PR07-490 | -- |

**PRODUCTION EQUIPMENT**

## Seikoh Giken Polishing Machines

### SFP-70D Polishing Fixtures

**6 Position - IPC***

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PH07-PL-6 | LC | PH07-PL8A-6 | LC/APC |
| PH07-PM-6 | MU | PH07-PM8A-6 | MU/APC |
| PH07-SP-6 | ST | PH07-CP-6 | SC |
| PH07-CP8A-6 | SC/APC step | PH07-CP8C-6 | SC/APC conical |
| PH07-FP-6 | FC | | |
| PH07-FP8R-6 | FC/APC step - narrow key | PH07-FP8N-6 | FC/APC step - wide key |
| PH07-FP8RC-6 | FC/APC conical - narrow key | PH07-FP8NC-6 | FC/APC conical - wide key |
| PH07-FLM-6 | 1.25mm Zr Ferrule | PH07-FF-6 | 2.5mm Zr Ferrule |
| PH07-FF8A-6-1.5 | 2.5mm/APC Zr Step Ferrule 1.5mm Flange | PH07-FF8A-6-1.3 | 2.5mm/APC Zr Step Ferrule 1.3mm Flange |
| PH07-FF8C-6-1.5 | 2.5mm/APC Zr Conical Ferrule 1.5mm Flange | PH07-FF8C-6-1.3 | 2.5mm/APC Zr Conical Ferrule 1.3mm Flange |

### SFP-70D2 Polishing Fixtures

**2 Position - IPC***

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PH072-PL-2 | LC | PH072-PL8A-2 | LC/APC |
| PH072-PM-2 | MU | PH072-PM8A-2 | MU/APC |
| PH072-SP-2 | ST | PH072-CP-2 | SC |
| PH072-CP8A-2 | SC/APC step | PH072-CP8C-2 | SC/APC conical |
| PH072-FP-2 | FC | PH072-M5P | SMA 905 (Not I.P.C.) |
| PH072-FP8R-2 | FC/APC step - narrow key | PH072-FP8N-2 | FC/APC step - wide key |
| PH072-FP8RC-2 | FC/APC conical - narrow key | PH072-FP8NC-2 | FC/APC conical - wide key |
| PH072-FLM-2 | 1.25mm Zr Ferrule | PH072-FF-2 | 2.5mm Zr Ferrule |
| PH072-FF8A-2-1.5 | 2.5mm/APC Zr Step Ferrule 1.5mm Flange | PH072-FF8A-2-1.3 | 2.5mm/APC Zr Step Ferrule 1.3mm Flange |
| PH072-FF8C-2-1.5 | 2.5mm/APC Zr Conical Ferrule 1.5mm Flange | PH072-FF8C-2-1.3 | 2.5mm/APC Zr Conical Ferrule 1.3mm Flange |
| PH072-EF-2-HS | E2000 Ferrule Holder - H&S | PH072-EF2-RS | E2000 Ferrule Holder - R&D |
| PH072-MT-1 | Single Position MT | | |

*Seikoh Giken's Independent Pressure Control (IPC) Connector Plates allow the operator to use any of the plate's ports in any configuration. Most plates require the connectors to be placed in a symmetrical pattern to produce even polishes. With IPC plates, ferrules are given even polishes regardless of how they are placed in the plate.

**PRODUCTION EQUIPMENT**

# Seikoh Giken Polishing Machines

## Repair Mate

Based on Seikoh Giken's proprietary rotation mechanism and with their long experience in polishing technology, the REPAIR MATE™ was specially designed for repolishing connector endfaces that may have been damaged in the field or may need minor re-working during production.

### Features & Benefits

- Small size for high portability in the lab or in the field. (AA battery operation)
- User-friendly one touch button operation.
- New rotation mechanism enables the removal of fiber endface scratches while maintaining endface geometry.
- Polishing holder equiped with IPC* mechanism provides stable polishing results regardless of ferrule length.
- Polishing holders for various connector types available.  SC, FC, ST LC, MU (PC & APC)

### Ordering Information

| Polisher P/N | Plate P/N | Connector Style |
|---|---|---|
| SFP-LITE-FP | PHRM-FP | FC |
| SFP-LITE-FPA | PHRM-FP8R | FC/APC Step Ferrule - Narrow Key |
| SFP-LITE-FPAN | PHRM-FP8N | FC/APC Step Ferrule - Wide Key |
| SFP-LITE-FPC | PHRM-FP8RC | FC/APC Conical Ferrule - Narrow Key |
| SFP-LITE-FPCN | PHRM-FP8NC | FC/APC Conical Ferrule - Wide Key |
| SFP-LITE-CP | PHRM-CP | SC |
| SFP-LITE-CPA | PHRM-CP8A | SC/APC Step Ferrule |
| SFP-LITE-CPC | PHRM-CP8C | SC/APC Conical Ferrule |
| SFP-LITE-SP | PHRM-SP | ST |
| SFP-LITE-PL | PHRM-PL | LC |
| SFP-LITE-PLA | PHRM-PL8A | LC/APC |
| SFP-LITE-MP | PHRM-MP | MU |
| SFP-LITE-MPA | PHRM-PM8A | MU/APC |

Polisher comes with one plate and items listed in the standard accessories kit.

### Repair Mate Standard Accessories Kit

| Part Number | Description | Qty. | Part Number | Description | Qty. |
|---|---|---|---|---|---|
| N/A | AA Batteries | 4 | RM-TW | Tweezers | 1 |
| RM-AD | AC/DC Adapter | 1 | RM-SD | Screw Driver | 1 |
| RM-PB | Plastic Water Bottle | 2 | RM-CC | Carrying Case | 1 |
| RM-CB | Cotton Buds | 5 | PL-50 | Polishing Oil (500 cc) | 1 |
| DIRM | Diamond Polish Film | 2 | CF07 | Cleaning Film | 1 |
| HFRM | Final Polish Film | 20 | PR07-500 | Rubber Pad for CF07 | 1 |
| PRRM-250-50 (PC Pkg Only) | 50 Durometer Rubber Polishing Pad | 2 | PRRM-250-75 (APC Pkg Only) | 75 Durometer Rubber Polishing Pad | 2 |
| PRRM-250-85 (LC/MU Pkg Only) | 85 Durometer Rubber Polishing Pad | 2 | | | |

*Seikoh Giken's Independent Pressure Control (IPC) Connector Plates allow the operator to use any of the plate's ports in any configuration.  Most plates require the connectors to be placed in a symmetrical pattern to produce even polishes.  With IPC plates, ferrules are given even polishes regardless of how they are placed in the plate.

**PRODUCTION EQUIPMENT**

Specifications may change without notice

# Seikoh Giken Polishing Machines



## SKT Series Inspect, Clean & Restore Systems

Fiber to the Home installations are pushing the limits of connector performance. To work at their peak, the optical interface must be clean and scratch free throughout the entire network.

The SKT series Field Service Kits by Seikoh Giken provides the service technician with all the tools needed to quickly inspect, clean and restore optical connectors anywhere in the field, whether at the pedestal or at the MDU.

### Features

- Battery operated 400x Probe Scope & LCD video display. Adapter tips included for bulkhead inspection.
- RepairMate restoration polisher for re-polishing of PC & APC connectors. Includes AC adaptor & battery pack.
- FerruleMate handheld bulkhead connector cleaners for both 1.25mm & 2.5mm ferrules.
- HandiMate handheld universal connector cleaner.
- Adapter Accessory Kit - Full selection of SC, FC, & LC bulkhead adaptors for testing and inspection.
- Alcohol-free cleaning solvent for heavy debris applications.
- Ruggedized hard-plastic carrying case for complete protection and organization of supplies.

### Ordering Information

| Part Number | Description |
|---|---|
| SKT-100 | Seikoh Giken Probe Inspection Kit with 400x Probe and 3.5" LCD Display. Includes FC, SC and LC tips and a hard case. Kit also includes 1.25mm and 2.5mm Ferrule Mates, a HandiMate Connector Cleaner and the Micro Care FCC2 cleaning solution. |
| SKT-300 | Seikoh Giken Repair Mate - Inspect, Clean & Resotre Kit includes one Repair Mate with accessories and choice of fixture. A 400x probe scope with FC, SC and LC adapter tips and LCD Display, 1.25mm & 2.5mm Ferrule Mates, a HandiMate Connector Cleaner and Micro Care FCC2 Cleaning Solution. |

**PRODUCTION EQUIPMENT**

# Domaille Polishing Machines

Domaille's optical fiber polishing machines are capable of holding the close tolerances and repeatability required to consistently achieve superior production results when measuring apex offset, radius of curvature, fiber protrusion, back reflection and under-cut. Two factors are of utmost importance when selecting a polishing machine: Yield and throughput. Yield is an indicator of quality and repeatability. Throughput is a measure of productivity. The Domaille polishers are leaders in the industry in terms of both yield and throughput.

All of Domaille Engineering's precision connector polishing machines are designed for accuracy, easy setup, and operator efficiency resulting in industry-leading yield rates. By allowing you to adjust platen force, speed, and time to satisfy your exact specifications, our machines can precisely polish the ends of fiber optic connectors in a repeatable, reliable manner.

Although all models of the Domaille Engineering machines hold the same ultra-precise tolerances, the more advanced machines offer higher degrees of automation and process control. Additionally, all HDC models (even discontinued versions) can be upgraded to an HDC-4000 or HDC-5100. For example, the HDC-3000 can be retrofitted to become an HDC-5100. This allows for maximum return on your polishing machine investment.

## APM Model HDC-5100

### High Volume, PC Based Polishing Machine

HDC-5100 polisher allows you to program your polishing processes through an easy-to-use PC-based Windows-like full-color touch screen panel.  Once programmed, the panel displays your settings for speed, time, and pressure, and also prompts the operator for the film, pad, and lubricant needed for each step of the process.

The number of processes that can be defined and stored within the HDC-5100 is only limited by the amount of machine memory.  This means hundreds of processes and steps within each process can be stored on a single machine.

If the number of connectors loaded into the polishing fixture is less than the default that has been programmed, the automatic pressure adjustment feature allows the operator to enter the actual number of connectors loaded.  The required pressure is then automatically recalculated to ensure that the individual connector force remains constant regardless of the number of connectors assumed in the process definition.

The HDC-5100 also provides the capability to copy and store your processes to a Compact Flash memory card.  The Compact Flash card can be used to backup your defined processes and to copy processes from one machine to another.  This not only saves process setup time for each machine, but also ensures consistent process settings.

## APM Model HDC-4000

### High Volume Polishing Machine

The HDC-4000 features gauges that display force, speed, and time settings.  It allows the operator to adjust platen pressure to optimize the polishing process, as well as easily polish partially loaded jigs.  After the setup is complete, minimum operator knowledge is required to run the machine.  The operator simply loads the polishing fixture and presses a button to start one of the four programmed cycles.

## FPM Model HDA-500

### Field Use Polishing Machine

A compact version of the Advanced Polishing Machines, our Field Polishing Machine (FPM-HDA-500) can be transported for on-site fiber optic cable installation and emergency repair use.  It is designed to achieve the same accuracy as Domaille's larger machines, but with fewer features.  An international version is also available which is equiped to operate at 220VAC, 50/60 Hz.

PRODUCTION EQUIPMENT

# Domaille Polishing Machines

**PRODUCTION EQUIPMENT**

## APM Model HDC-2400 & 2700

### High Volume Multimode Polishing Machines

PC cased polishing machine with color touch screen panel specifically designed for polishing multimode connectors. Features include a pneumatic force control and programmable single three or four step polsihing process.  This unique design provides minimal cable movement and allows for abrasive film change without removing the fixture. The 2400 works with all Domaille round fixtures and the 2700 works with standard square fixtures.

### Features & Benefits

- Color Touch Screen
- Pneumatic Force Control
- Stores a Single Three or Four Step Process
- Single Speed Setting
- Programmable Force and Time Settings
- Cable Management System

## DE•nubber™

### Automated Stub & Epoxy Removal

Specially designed for denubbing optical fiber connectors, the DE•nubber consistently removes excess epoxy from optical fiber connectors.  Significantly reduces cracked fibers resulting from manual denubbing processes.  Available for round and square fixture configurations.

### Features & Benefits

- Repeatable Connector Prepping Process
- Preps to Consistent Fiber Height
- Can Reduce Polishing Time
- Prepping Done In Polishing Fixture
- Can Eliminate Polishing Steps

## Optic Cleanse™

### Automated Cleaning Machine

Domaille introduces the Optic Cleanse, PC based, automated cleaning machine with color touch screen.  By using non-contact, cleaning technology, it removes process variation by automating the cleaning and prepping cycle while the connectors are still in the polishing fixture.

### Features & Benefits

- Repeatable Connector Cleaning Process
- Programmable Cleaning Cycles
- Prevents Contact Cleaning Scratches

### Ordering Information

| Part Number | Description |
|---|---|
| APM-HDC-5000 | HDC-5000 PC Based Programmable Production Polishing Machine, 100-240VAC and 50/60Hz, CE Marked w/ Standard Accessories |
| APM-HDC-4000 | HDC-4000 Production Polishing Machine, 120VAC, 50/60Hz, w/ Standard Accessories |
| FPM-HDA-500 | HDA-500 Field Polishing Machine, 120VAC 50/60Hz, w/ Standard Accessories |
| FPM-HDA-600 | HDA-600 Field Polishing Machine, 220VAC 50/60Hz, CE Marked w/ Standard Accessories |
| APM-HDC-2400 | HDC-2400 Multimode Polishing Machine for Round Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |
| APM-HDC-2700 | HDC-2700 Multimode Polishing Machine for Square Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |
| DN-RRP-1400 | Denubbing Machine for Round Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |
| DN-RRP-1700 | Denubbing Machine for Sqaure Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |
| ACM-PWC-3400 | Cleaning Station for Round Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |
| ACM-PWC-3700 | Cleaning Station for Sqaure Fixtures, 120VAC, 50/60Hz, w/ Standard Accessories |

# Domaille Polishing Machines



## ABRASAVE Fixtures

Domaille Engineering is pleased to announce the ne ABRASAVE fixture line, the most revolutionary fiber optic polishing equipment solution in decades. This patent pending, mathematically derived design maximizes polishing film usage, allowing for up to a 50% reduction in polishing time while also extending the life of your polishing film media usage by up to 100%.

This fixture line is available in the standard dimensions of previous Domaille fixtures but is also available in a new, square shape that is compatible with both Domaille and Seikoh Giken polishing machines.

### Ordering Information

| Standard Shape | Square Shape | Description |
|---|---|---|
| PFA-FC-18 | SFA-FC-18 | FC - 18 Pos |
| PFA-SC-18 | SFA-SC-36 | SC - 18 Pos Std. / 36 Pos Sqr. |
| PFA-ST-18 | SFA-ST-18 | ST - 18 Pos |
| PFA-LCF-18 | SFA-LCF-36 | LC - 18 Pos Std. / 36 Pos Sqr. |
| NA | SFA-LCDX-18 | LC Duplex - 18 Pos |



## Cam-Lock Fixtures

The Dual Cam-Lock fixture was developed to provide a machine polishing solution for pin and socket style connectors that were otherwise left to hand polishing. This plate is available for standard mil spec 38999 contacts as well as broadcast SMPTE, ARINC and TFOCA contacts. Standard diameters include 2.5, 2.0, 1.8, 1.6, 1.25 and 1.0mm, but custom diameters, shapes and geometries can be manufactured. The single hole version allows for one diameter ferrule and the two hole version gives you the option of having two different diameter ferrules.

### Ordering Information

| Part Number | Description |
|---|---|
| PF-xxDCL-12 | 12 Position Dual Cam-Lock (single hole size) |
| PF-xx-yyDCL-12 | 12 Position Dual Cam-Lock (two hole sizes) |
| PFA-xxDCL-12 | ABRASAVE 12 Position Dual Cam-Lock (single hole size) |
| PFA-xx-yyDCL-12 | ABRASAVE 12 Position Dual Cam-Lock (two hole sizes) |
| SFA-xxDCL-18 | ABRASAVE Square 18 Position Dual Cam-Lock (single hole size) |
| SFA-xx-yyDCL-18 | ABRASAVE Square 18 Position Dual Cam-Lock (two hole sizes) |
| SF-CL-020 | Height Setting Fixture with .020" protrusion (single or dual hole) |
| SF-CL-030 | Height Setting Fixture with .030" protrusion (single or dual hole) |
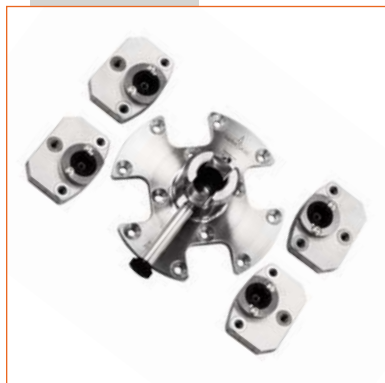


## Prototype Fixtures

Specially designed for prototyping connectors, this unique fixture has a universal base which can hold up to four different standard or custom inserts for process development of new connectors. It can also be used for reqorking low quantities of connectors or to support low volumes of custom connectors.

### Ordering Information

| Part Number | Description |
|---|---|
| PF-VC-4 | Universal Prototype Fixture Base. Requires four (4) inserts for operation. |
| VC-XX | Universal Prototype Fixture Insert (standard/straight) |
| VC-XXA | Universal Prototype Fixture Insert (custom/angle) |

**PRODUCTION EQUIPMENT**

Specifications may change without notice

# Domaille Polishing Machines

## Standard Fixtures

All Domaille fixtures have the added benefit of being able to be used across any of their machines. If you need a particular connector style not listed below, it is likely that Domaille can make it for you. Please contact us for details.

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PF-D4-12 | D4 - 12 Pos | PF-SMA-18 | SMA - 18 Pos |
| PF-FC-12 | FC - 12 Pos | PF-FC-18 | FC - 18 Pos |
| PF-FC8-12 | FC/APC - 12 Pos | PF-FC8.3-12 | FC/APC (8.3°) - 12 Pos |
| PF-FC8-18 | FC/APC - 18 Pos | | |
| PF-FC/SCU-12 | FC/SC Unassembled - 12 Pos | PF-FC/SCU-18 | FC/SC Unassembled - 18 Pos |
| PF-FO-12 | 2.5mm Ferrule - 12 Pos | PF-FO8-12 | 2.5mm/APC Ferrule - 12 Pos |
| SF-FO-12R2 | Setting Fixture for PF-FO-12 and PF-FO8-12 | | |
| PF-FO-24 | 2.5mm Ferrule - 24 Pos | SF-FO-24 | Setting Fixture for PF-FO-24 |
| PF-LCF-12SS | LC FLC* - 12 Pos w/ Scallops** | PF-LCF8-12 | LC/APC FLC* - 12 Pos |
| PF-LC8-12SS | LC/APC - 12 Pos w/ Scallops** | PF-LC8.3-12SS | LC/APC (8.3°)- 12 Pos w/ Scallops** |
| PF-LCDX-6SS | LC Duplex - 6 Pos w/ Scallops** | PF-LCDX-12 | LC Duplex - 12 Pos |
| PF-LX.5-12 | LX.5 - 12 Pos | PF-LX.58-12 | LX.5/APC - 12 Pos |
| PF-MT-EZ-12 | MT - 12 Pos | | |
| PF-MT-10 | MT - 10 Pos | PF-MT8-10 | MT/APC - 10 Pos |
| PF-MTRJ-10 | MTRJ - 10 Pos | PF-MTRJ8-10 | MTRJ/APC - 10 Pos |
| PF-MU-12 | MU - 12 Pos | PF-MUF-24 | MU FLC* - 24 |
| PF-SC-12SS | SC - 12 Pos w/ Scallops** | PF-SC-18SS | SC - 18 Pos w/ Scallops** |
| PF-SC8-12SS | SC/APC - 12 Pos w/ Scallops** | PF-SC8-18SS | SC/APC - 18 Pos w/ Scallops** |
| PF-SC8.3-12SS | SC/APC (8.3°) - 18 Pos w/ Scallops** | PF-RME2000DCL8.3-12 | E2000/APC R&M - 12 Pos |
| PF-ST-12S | ST - 12 Pos w/ Scallops** | PF-ST-18S | ST - 18 w/ Scallops** |

\* Ferrule Length Compensation (FLC) Polishing Fixture

\*\* Polishing fixture has "scallops" around the edges to allow for indexing when used with the ME8800 Micro Enterprises inspection system. See Test & Inspection.

PRODUCTION EQUIPMENT

# Domaille Polishing Machines

## Polishing Machine Accessories

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| PM12525 | Timer cover, hard | PM12524 | Timer cover, soft |
| PM12611 | Panel Meter Cover (HDC-4000) | PM21012 | HDC-5000 dust cover |
| PM12200TL | Pry Tool | LC REP KIT | Black plastic inserts, screws, pins |
| LCDX 6 REP KIT | LC 6 duplex port repair kit | LCDX 12 REP KIT | LC 12 duplex port repair kit |
| SC REP KIT | Black plastic inserts, screws, pins | SC REP KIT SS | Black plastic inserts, screws, pins |
| SC-18 REP KIT | Black plastic inserts, screws, pins | SCDC REP KIT | Black plastic inserts, screws, pins |
| PF10070 | Fixture clamp screw | FC/SC UNASM NUT | SC/FC unassembled slotted nuts |
| PM12553 | Koby air filter | PM10154 | Air Line Assembly |
| PM12649 | Platen grease | TRIFLOW2OZ | 2oz. Tri-Flow Oil |
| MT52000 | MT/MTRJ Cable Management Device | MT52010 | Torque screwdriver for MT/MTRJ fixtures |
| PM10121 | Load cell gauge block (HDC-4000) | PMTF-220-110 | Transformer |
| FIXT.BRUSH 2.5 | Cleaning brush for 2.5mm | FIXT.BRUSH 1.25 | Cleaning brush for 1.25mm |
| **Glass Plates & Rubber Pads** | | | |
| FPM12200 | 4 1/8" Glass Plate | PM12200 | 5" Glass Plate |
| FPM21000-65 | 4 1/8" 65 durometer rubber pad (5 min) | PM12100-65 | 5" 65 durometer rubber pad (5 min) |
| FPM21000-70 | 4 1/8" 70 durometer rubber pad (5 min) | PM12100-70 | 5" 70 durometer rubber pad (5 min) |
| FPM21000-80 | 4 1/8" 80 durometer rubber pad (5 min) | PM12100-80 | 5" 80 durometer rubber pad (5 min) |
| FPM21000-90 | 4 1/8" 90 durometer rubber pad (5 min) | PM12100-90 | 5" 90 durometer rubber pad (5 min) |

PRODUCTION EQUIPMENT

# Ultra Tec Polishing Machines

**PRODUCTION EQUIPMENT**

ULTRA TEC polishing machines provide a great solution for the user who doesn't need a full blown, heavy duty, production machine, needs to operate within a budget or needs ultra portability. With all the standard connectors covered, robust systems can be put together to handle multiple connector styles at an economical price.

## FTTx - Portable Fiber Polisher

Developed for 'In-the-field' and 'Retro-Polishing' applications, the FTTx portable connector/termini/contact polisher from ULTRA TEC provides the performance required by installation professionals for the FTTx, LAN, CATV, and Aircraft/shipboard applications.

The polisher can be held at any desired angle during operation. This allows for true portable operation in small workspaces, cross-connects, fiber nodes and wire closets. The unit can be operated with either a battery pack or a power supply (both included with standard package).

The standard package for the unit incorporates all the items you need for a fully configured system:

- Portable Polisher
- 5 Resilient Polishing Platens
- 12V Converter
- Battery Pack & Charger
- Carrying Case

## CTC - Benchtop Polisher

CTC can be used at the bench-top or in the field. The simple logistics of the unit make it extremely user-friendly. No previous experience is needed to operate the unit.

CTC utilizes the unique 'Fiber Positioning System' that is shared by other models of ULTRA TEC equipment. This 'System' allows for easy height and pressure control that is needed for different brands and types of connectors. A timer control allows for pre-defined polishing instruction.

The standard package for the unit incorporates all the items you need for a fully configured system:

- Polisher
- 12V Converter
- 5 Resilient Polishing Platens

## UT-MINIPOL-1 - Single Position Polisher

UT.MINIPOL.1 provides many of the features of larger polishing units in a small benchtop package. Perfect for users with small production batches or operating with a limited budget as it works with most connector types including SC, FC, ST, D4, SMA and Bare fiber.

The system can be powered by 110 or 220 VAC converter or by a standard 12V battery. A wide variety of Workholders are available for extending the use of the system at any time

### Ordering Information

| Part Number | Description |
| --- | --- |
| 9005.4 | Ultra Tec FTTX Four Position Portable Polisher |
| 8802.4 | Ultra Tec CTC Four Position Fiber Polisher |
| 8801.1 | Ultra Tec UT-MINIPOL-1 Single Position Polisher |
| 8801.3 | Ultra Tec UT-MINIPOL-1 Single Position Polisher (Bare Fiber Package Includes 2890.1) |

# Ultra Tec Polishing Machines

## Polishing Fixtures

### Ordering Information

| Type | FTTX or CTC | | UT-MINIPOL-1 |
| --- | --- | --- | --- |
| | 4-Pos | 2-Pos | 1-Pos |
| LC | 4315.1 | 4215.1 | 2815.1 |
| LC/APC | 4315.8 | 4215.8 | 2815.8 |
| MU | 4313.1 | 4213.1 | 2813.1 |
| MU/APC | 4313.8 | 4213.8 | 2813.8 |
| SC | 4305.1 | 4205.1 | 2806.1 |
| SC/APC | 4305.8 | 4205.8 | 2806.8 |
| FC | 4314.1 | 4214.1 | 2814.1 |
| FC/APC | 4314.8 | 4214.8 | 2814.8 |
| ST | 4304.1 | 4204.1 | 2804.1 |
| ST/APC | NA | 4204.8 | 2804.8 |
| 2.5mm Ferrule | 4311.1 | 4211.1 | 2811.1 |
| 2.5mm/APC Ferrule | 4311.8 | 4211.8 | 2811.8 |
| 1.25mm Ferrule | 4311.2 | 4211.2 | 2811.2 |
| 1.25mm/APC Ferrule | 4311.9 | 4211.9 | 2811.9 |
| 905 SMA | 4303.5 | 4203.5 | 2803.5 |
| 906 SMA | 4303.6 | 4203.6 | 2803.6 |
| Contact Holder Assembly (specify contact O.D. & type) | 4311.XX | 4211.XX | 2811.XX |
| Bare-fiber Workholder (flat polishing only-specify diameter) | NA | NA | 2890.1 |

## Accessories

### Ordering Information

| Part Number | Description | For Use With | | |
| --- | --- | --- | --- | --- |
| | | FTTx | CTC | UT-MINIPOL-1 |
| 4093.1 | 2" Resilient Surface Disc (PC) | x | x | |
| 4094.1 | 2" Hard Surface Disc (Flat) | x | x | |
| 6593.1 | 4" Resilient Surface Disc (PC) | | | x |
| 6594.1 | 4" Hard Surface Disc (Flat) | | | x |
| 4025.1 | 110VAC/12VDC Adapter | | | x |
| 4026.1 | 220VAC/12VDC Adapter | x | x | x |
| 4027.1 | Battery & Battery Pack | x | x | x |
| 4028.1 | Battery Charger | x | x | x |
| 4024.1 | Auto Plug-in Adapter | | | x |
| 4030.1 | Carrying Case | | x | x |
| 4030.2 | Carrying Case | x | | |
| 4301.1 | 4-Position Head Assembly | x | x | |

PRODUCTION EQUIPMENT

Specifications may change without notice

**PRODUCTION EQUIPMENT**

# Bare Fiber Polishing Machines
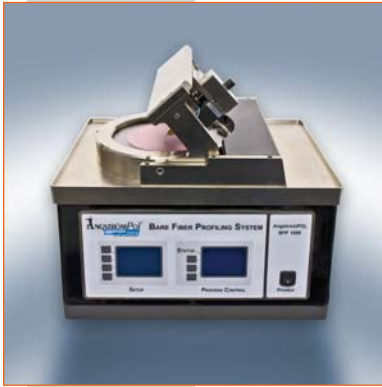
### ÅNGSTRÖM*Pol* ®

**BFP1000** Bare Fiber Polisher

Only available from Fiber Optic Center, the new Ångström*Pol* series of bare fiber profilers employ Patent Pending technology to achieve new levels of performance. Sub-micron stability and digital control ensures accurate and repeatable profiling in less than a minute. A simple, yet highly flexible user interface makes the Ångström*Pol* suitable for R&D and Production applications. The operator simply selects the desired profile geometry, enters values for the associated angles, and presses GO. In less than a minute, the newly polished fiber tip is moved to the inspection position. The Ångström*Pol* can be configured with for a wide variety of options to meet the needs of any application.

### Features

- Preprogrammed for conical, angled flats and chisels for "out-of-the-box" operation
- Ultra-stable, automated system produces > 99% yield at rate of up to one part per minute
- Dynamic menu system adapts to current machine state and prompts user accordingly
- Brushless motors means no brushes to replace; bearings are sealed
- Unique fiber guide prevents degeneration of fiber tensile strength associated with micro-cracks induced by ferrule guides in other polishing systems
- Automatically accommodates any fiber with diameter between 80 and 250 microns
- Usage of polishing papers is maximized by dithering fiber position in non-overlapping concentric pathways

### Benefits

- No process to develop
- Very low production costs
- Minimal training required
- No user maintenance
- No field failures
- No additional tooling or expense
- Low consumables cost

### Ordering Information

| Part Number | Description |
|---|---|
| BFP1000 | Ångström*Pol* Bare Fiber Polisher for 80-250um fiber |
| BFP1000-250 | Ångström*Pol* Bare Fiber Polisher for 250-1000um fiber |

### Accessories

| Nose Piece | Tube Guide | Fiber Size |
|---|---|---|
| BFPN-80 | BFPTG-80 | 80-250um fiber |
| BFPN-250 | BFTG-250 | 250-1000um fiber |

# Multi-Purpose Ultra Sonic Cleaners

## Bransonic

### 2510 Series Tabletop Ultra Sonic Cleaners

Ultrasonic cleaning is faster, more consistent, and safer than any other method. Hand scrubbing, soaking, or steam doesn't even come close. The Bransonic® table top cleaners now include the same high power, rugged transducers found on industrial systems sold to the automotive, electronics, and metalworking industries. These Langevin-type metal/ceramic devices use engineered ceramics to assure both durability and superior power.  Coupled with a new sweep frequency capability, you get the best possible cleaning every time, all the time.

Fiber Optic Center recommends this model cleaner with the A22-1 tank cover and the 100-916-334 mesh basket for periodic cleaning of polishing machine connector fixtures.  This machine and a simple 60/40 mix of de-ionized water and isopropyl alcohol is all you need to ensure a contaminant free plate.

### Features & Benefits

- Consistent enough to meet medical and laboratory standards
- Rugged Enough for Industry
- Safe enough for delicate electronic parts and precious jewelry
- Digital Control Plus Heat & Timer
- Mechanical Timer Plus Heat
- Mechanical Timer
- Cover Included
- Two Year Warranty

### Technical Specifications

| | |
|---|---|
| **Overall Size** | 13.5" x 12" x 11.5" |
| **Tank Size** | 9.5" x 5.5" x 4" |
| **Weight** | 9 lbs |
| **Frequency** | 40 kHz |

### Ordering Information

| Part Number | Description |
|---|---|
| B2510-MT | Branson Tabletop Ultrasonic Cleaner with Mechanical Timer. |
| B2510-MTH | Branson Tabletop Ultrasonic Cleaner with Mechanical Timer and Heat Control |
| B2510-DTH | Branson Tabletop Ultrasonic Cleaner with Digital Timer and Heat Control |

### Accessories

| Part Number | Description | | |
|---|---|---|---|
| A22-1 | Tank Cover | A250 | 250 ml Glass |
| A22-2 | Solid Tray | A600-1 | 600 ml Glass |
| A22-3 | Perforated Tray | A600-2 | 600 ml Stainless Steel |
| A22-5 | Beaker Cover (2-600 ml) | 000-486-065 | Drain Tubing (1 Ft) |
| A22-6 | Beaker Cover (2-250 ml) | 100-916-334 | Mesh Basket |
| CPN-916-040 | Support Rack | | |

PRODUCTION EQUIPMENT

# Connector Cleaning Systems

## Westover CleanBlast
### Bench-Top and Portable Connector Cleaning Systems

Westover Scientific's line of CleanBlast™ systems provide rapid, controlled cleaning and removal of contamination from fiber optic connector end-faces.  This patent-pending design utilizes a connector interface that creates a flow of highly-filtered gas across the surface of the fiber.  A solvent is then introduced and atomized to create a cleaning mist.  All exhaust is reclaimed through a controlled retrieval circuit.   The quick-drying solvent used is non-flammable, non-conductive, and residue-free.

• Faster, more effective, and less costly than using swabs or other methods.
• Excellent at removing - instead of spreading - debris and oils around the ferrule surface.

The Bench-Top Systems are most commonly used in production, manufacturing, and QC environments.  They are high-throughput, low-maintenance systems and require a clean, compressed air source. The Portable series are complete systems contained inside a rugged Pelican® 1450 transport case.  They are ideal for mobile and field applications or for areas where there is no regulated, compressed air supply available - the Portable series contain a built-in compressor.

## Patchcord Cleaning System

The Patchcord cleaning module is connected to a CleanBlast™ Bench-Top System base unit via a 5 ft. umbilical hose, and precision interchangeable cleaning Adapters allow for cleaning of connectors on a patch cord.  The Patch Cord module can be secured to a workbench using the mounting holes located on the base of the unit.

### Ordering Information

| Part Number | Output | Description |
|---|---|---|
| FCL-B3000 | Analog | CleanBlast™ Bench-Top System; Dual Bulkhead and Patch Cord module, Univ. 2.5mm tip & Adapter |
| FCL-B4000 | Analog | CleanBlast™ Bench-Top System; Patch Cord Module; Univ. 2.5mm Adapter |
| FCL-B4100 | Digital | CleanBlast™ Bench-Top System; Patch Cord Module; Univ 2.5mm Adapter |

## Bulkhead Backplane Connector Cleaning System

The bulkhead handset was designed to clean connectors that are mounted with bulkheads, devices, or alignment sleeves using the CleanBlast™ tips. This handset can also be used to clean patch cords with the use of compatible CleanBlast™ Mating Adapters.

### Ordering Information

| Part Number | Output | Description |
|---|---|---|
| **Bench-Top Systems** | | |
| FCL-B1000 | Analog | CleanBlast™ Bench-Top System; Bulkhead Handset; Univ. 2.5mm tip |
| FCL-B1000-22 | Analog | CleanBlast™ Bench-Top System; Bulkhead Handset; Univ 2.5mm tip; 22' Umbilical |
| FCL-B1100 | Digital | CleanBlast™ Bench-Top System; Bulkhead handset; Univ. 2.5mm tip |
| **Portable Systems** | | |
| FCL-P1100 | Digital | CleanBlast™ Portable System; Bulkhead handset; Univ. 2.5mm tip |
| FCL-P1100-08 | Digital | CleanBlast™ Portable System; Bulkhead handset; Univ. 2.5mm tip; 8' umbilical |

PRODUCTION EQUIPMENT

# Connector Cleaning Systems

## 90° Bulkhead Backplane Termini Cleaning Systems

This handset is particularly useful when cleaning termini inside Mil type connectors mounted in hard to reach locations.

### Ordering Information

| Part Number | Output | Description |
|---|---|---|
| **Bench-Top Systems** | | |
| FCL-B2000 | Analog | CleanBlast™ Bench-Top System; w/ 90° handset; Univ. 2.5mm tip |
| FCL-B2000-22 | Analog | CleanBlast™ Bench-Top System;  w/ 90° handset; Univ. 2.5mm tip; 22' Umbilical |
| FCL-B2100 | Digital | CleanBlast™ Bench-Top System; w/ 90° handset; Univ. 2.5mm tip |
| **Portable Systems** | | |
| FCL-P2100 | Digital | CleanBlast™ Portable System; w/ 90° handset; Univ. 2.5mm tip |

## Backplane Long Reach Connector Cleaning Systems

The CleanBlast™ backplane wand was specifically designed for long-reach backplane applications.  The removable rigid rod attaches to a specially designed handset and can be configured to work with either Bench-Top or Portable CleanBlast™ Systems.  The standard length wand is 12" long.

### Ordering Information

| Part Number | Output | Description |
|---|---|---|
| FCL-B6000 | Digital | CleanBlast™ Bench-Top System; Digital; Back-plane Wand for Motherboard Cleaning |
| FCL-P6100 | Digital | CleanBlast™ Portable System; Digital; Back-plane Wand for Motherboard Cleaning |

## Transceiver Cleaning Systems

This innovative workstation is designed for both cleaning and inspecting optical transceivers.  The cleaning/inspection module utilizes a CleanBlast™ Bench-Top System, the Westover Scientific FBP-P5 dual-magnification Video Inspection Probe, and a 6.4" TFT LCD for quick inspection of the fiber stub or ball lens before and after cleaning.  Inspection and cleaning tips are available for both SC and LC connector interfaces.

### Ordering Information

| Part Number | Output | Description |
|---|---|---|
| FCL-B5000 | Analog | CleanBlast™ Transceiver System w/ Analog dual mag probe 6.4" LCD; No tips |
| FCL-B5100 | Digital | CleanBlast™ Transceiver System w/ Digital dual mag probe 6.4" LCD; No tips |

**PRODUCTION EQUIPMENT**

Specifications may change without notice

# Connector Cleaning Systems



## CleanBlast Tips & Adapters

CleanBlast™ tips are used with the Bulkhead set while the adapters are used with the patch cord module.

### Ordering Information

| Part # | Description | Part # | Description |
|---|---|---|---|
| FCLT-U25 | Universal 2.5mm Bulkhead Cleaning Tip; for SC, ST, FC connectors. | FCLT-U25-MA | Universal 2.5mm Cleaning Tip & Mating Adapter for patch cord assemblies. |
| FCLA-U25 | Universal 2.5mm Cleaning Adapter for patch cord assemblies. | FCLA-U12 | Universal 1.25mm Cleaning Adapter for patch cord assemblies. |
| FCLT-U12 | Universal 1.25mm Bulkhead Cleaning Tip; 2" in length. | FCLT-U12-MA | Universal 1.25mm Cleaning Tip & Mating Adapter for patch cord assemblies. |
| FCLT-U12X | Universal 1.25mm Cleaning Tip, 1" in length; made with hardened stainless steel. | FCLA-LC | LC Cleaning Adapter for patch cord assemblies. |
| FCLT-LC | LC Bulkhead Cleaning Tip. | FCLT-LC-A6 | LC Bulkhead Cleaning Tip, Angled at 60°. |
| FCLT-E2-250 | E2000 Bulkhead Cleaning Tip.  (2" length) | FCLA-E2 | E2000 Cleaning Adapter for patch cord assemblies. |
| FCLT-SCX | SC Bulkhead Cleaning Tip, 1" in length; made with hardened stainless steel. | FCLT-SC-250 | SC Bulkhead Cleaning Tip, 2" in length. |
| FCLT-SC-A6 | SC Bulkhead Cleaning Tip, Angled at 60°. | FCLT-SCFC-A6 | SC or FC Bulkhead Cleaning Tip, Angled at 60°. |
| FCLT-MT | MT Bulkhead Cleaning Tip. | FCLT-MT45 | MT Cleaning Tip, Angled at 45°. |
| FCLT-MT-MA | MT Ferrule Cleaning Tip & Mating adapter for patch cord assemblies. | FCLT-VME-MB-A6 | CleanBlast™ MT-VME Motherboard Cleaning Tip, Angled at 60°. |
| FCLT-MT-MB | MT Motherboard Cleaning Tip. | FCLT-MT-MB-JSF | MT Motherboard Cleaning Tip, for Joint Strike Fighter (JSF) Program. |
| FCLT-MTP | MTP Bulkhead Cleaning Tip. | FCLT-MTP-A6 | MTP Bulkhead Cleaning Tip, Angled at 60°. |
| FCLT-MTP-MA | MTP Cleaning Tip & Mating Adapter for patch cord assemblies. | FCLT-MPX | MPX Bulkhead Cleaning Tip. |
| FCLT-HBMT1 | HBMT Bulkhead Cleaning Tip. | FCLT-HBMT2 | HBMT Dual Bulkhead Cleaning Tip. |
| FCLT-HBMT2-DC | HBMT Dual Daughtercard Bulkhead Cleaning Tip. | FCLT-MTRJ | MTRJ Bulkhead Cleaning Tip. |
| FCLT-MIL1 | MIL29504/14/15 Cleaning Tip for pin & socket termini. | FCLT-MIL1-R | MIL29504/14/15 Cleaning Tip for pin & socket termini.  Rugged w/ safety trigger. |
| FCLT-MIL2 | MIL29504/4/5 Cleaning Tip 38999, for pin & socket termini. | FCLT-MIL2-R | MIL29504/4/5 Cleaning Tip 38999, for pin & socket termini.  Rugged w/ safety trigger. |
| FCLT-MIL2-A6 | MIL29504/4/5 Cleaning Tip 38999, for pin & socket termini.  Angled at 60°. | FCLT-MIL2-CPA | Glenair probe adapters Cleaning Tip. |
| FCLT-TFOCA1 | TFOCA1 Cleaning Tip for pins & sockets termini. | FCLT-TFOCA2 | TFOCA2 Cleaning Tip and Guide for pins & sockets termini. |
| FCLT-SMA | SMA Bulkhead Cleaning Tip. | | |

### Parts & Accessories

| Part # | Description | Part # | Description |
|---|---|---|---|
| FCLP-SOL1 | CleanBlast™ solvent; refill 8 oz. bottles. | FCLP-SOL1-6 | CleanBlast™ solvent, refill 6, 8 oz. bottles. |
| FCLP-SOL4 | CleanBlast™ Solvent Refill, 8 oz., Mild Ionic. | FCLP-CVA1 | Check Valve, Field Replacement Assembly. |
| FCLP-CH12 | Coil Hose Assembly, 12', rated @ 250 psi. | FCLP-CH25 | Coil Hose Assembly, 25', rated @ 250 psi. |
| FCLP-H1 | FCL Handle for Bench-Top Systems. | FCLP-FA-F1 | Filter, Air, 0.01u, 1/8" NPTF. |
| FCLP-FE-01 | Exhaust Filter Kit for Bench-Top Systems. | FCLP-FE-02 | Filter, 5" cartridge, activated carbon. |
| FCLP-RCA-1 | Bottle Cap Refill Assembly. | | |
| VM-LCD-64 | LCD, Color, 6.4". | VM-LCD-64B | LCD, Color, 6.4" w/Mounting Bracket for Clean Blast Bench Top Models. |

PRODUCTION EQUIPMENT

# Standard Fiber Strippers

## Miller

### FO103S Fiber Optic Buffer Stripper "Miller Stripper"

- For stripping 900/250 micron buffer coating from 125 micron optical fiber and other custom sizes
- Precision diameter hole & V-opening in blade ensure accurate buffer coating removal
- Factory set, requires no adjustment
- Prevents scratching or nicking of optical fiber
- All cutting surfaces are precision formed, hardened, tempered and ground assuring precise buffer removal

## Miller

### FO-103-D-250 "Dual-Hole" Buffer Stripper

- Second hole for stripping 900 micron tight buffer down to 250 micron buffer coating and standard 125 micron fiber stripping (250 micron removal to 125 micron) - allows longer stripping lengths w/o damaging the fiber
- New Dual hole model offer the same quality of our standard FO 103-S fiber tool coupled with a second hole
- Easy-to-read stripping diagrams imprinted on handles

## Miller

### NN152 & NN203 No-Nik Fiber Optic Buffer Stripper

- Accurate to -0mm, +.0127mm
- Exclusive centering device positions fiber for precise scoring and removal of buffer coating
- Razor-sharp blades score buffer without cutting through it
- Color-coded, cushion-grip handles for quick identification
- Buffer being removed acts as guide and protection for the fiber

## Micro Electronics

### MS-1 Series Micro-Strip Fiber Optic Buffer Stripper

- Interchangeable and replaceable blades
- Patented, self-centering stripping system assures precise, concentric scoring
- No cladding or core damage
- Tool can be customized to suit whatever buffer/fiber configuration up to 2360um

## Jonard

### JIC-125 Fiber Optic Coating Stripper

- Used for stripping 900/250 micron buffer coating from 125 micron optical fiber
- Preset at the factory so no adjustments are necessary
- Unique design prevents nicks or scratches on the optical fiber
- Blades are ground and hardened for long life
- Yellow plastic dipped handles
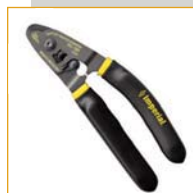
## Stride Tool

### IFO-1500 Imperial Duplex Zipcord Buffer Stripper

- Double strip notches remove both the 250 um and 900 um buffer coatings from two fibers at the same time
- Great for Zipcord and all duplex cables
- Ergonomic, non-slip comfort-grip handles
- The double strip notch design is preferred by fiber technicians and OEMs alike
- Precision-ground blades produce consistent clean strips

HAND TOOLS

# Standard Fiber Strippers

**HAND TOOLS**

## Ordering Information

| Part # | Manufacturer | Description |
|---|---|---|
| **250um Coating to 125um** | | |
| NN152 | Miller | No-Nik Fiber Optic Coating Stripper |
| NN152 Kit | Miller | No-Nik Stripping and Kevlar Cutting Kit.  Contains 2 to 3mm Jacket Stripper, Kevlar Shears, 152um Buffer Stripper and Case. |
| MS1-06S-40-FS | Micro Electronics | Micro-Strip Fiber Optic Coating Stripper |
| **250um Coating and 900um Buffer to 125um** | | |
| FO103S | Miller | Miller Fiber Optic Buffer Stripper ("Miller Stripper") |
| FO103-D-250 | Miller | Miller "Dual-Hole" Fiber Optic Buffer/Coating Stripper |
| NN203 | Miller | No-Nik Fiber Optic Buffer Stripper |
| NN203 Kit | Miller | No-Nik Stripping and Kevlar Cutting Kit.  Contains 2 to 3mm Jacket Stripper, Kevlar Shears, 203um Buffer Stripper and Case. |
| MS1-08S-40-FS | Micro Electronics | Micro-Strip Fiber Optic Buffer Stripper |
| MS-FOK-1 | Micro Electronics | Micro-Strip Fiber Optic Stripping Kit.  Contains Case, Stripping Tools, Blades and Fiber Guides for both outer jacket (up to 3.5mm) and coating/buffer stripping (up to 900um) |
| MS-FOK-2 | Micro Electronics | Micro-Strip Fiber Optic Stripping and Kevlar Cutting Kit.  Contains tools for stripping 250um & 900um buffers, 3.0mm Jackets and Kevlar Cutting.  Case included. |
| JIC-125 | Jonard | Jonard Fiber Optic Coating Stripper |
| **Duplex 250um Coating and 900um Buffer to 125um** | | |
| IFO-1500 | Stride Tool | Imperial Duplex Zip-Cord Buffer Stripper |

# Thermal Buffer Strippers

## Jonard

### TSFB-125 & TSAB-40 Thermal Strippers

The Jonard Thermal Strippers are compact, easy-to-use fiber stripping units designed to thermo-mechanically remove coatings from optical fibers. The heater is adjustable up to 200°C; far hotter than any competing product. This feature facilitates stripping extremely difficult and baked-on coatings and in some cases can even remove fluoroacrylate undercoatings.

**TSFB-125 Fixed Blade Thermal Stripper**
supports standard 125µm optical fibers, including 250µm, 400µm, and 900µm coated fibers. Adjustable temperature and time settings allow it to adapt to stripping a variety of different coatings. The precision, self-centering blade design produces high strength stripping performance unmatched by previous flat blade strippers.

**TSAB-40 Adjustable Thermal Stripper**
supports optical fibers with cladding diameters from 40µm to 1000µm, with buffer diameters up to 1200µm. This includes standard 250µm, 400µm, and 900µm coated fibers. Adjustable temperature and time settings allow it to adapt to stripping a variety of different acrylate coatings and cladding sizes.

## AFL Telecommunications

### HJS-02 & HJS-03-24 Hot Jacket Strippers

The HJS-02 and HJS-03-24 hot jacket strippers provide superior ribbon and field-ribbonized stripping performance. They conserve power for field stripping when operating under battery power.  A temperature selection switch is also provided for easy optimization in the field for different fibers or operating conditions.  An optional single-fiber adapter may be used to provide easy, single-fiber capability for high strength splicing applications, or for single-fiber capability for difficult to strip fibers.  These strippers also accept the fiber holders of the FSM-40F and FSM-40PM factory/lab splicers.  An optional power assist tool for the HJS-03-24 allows smooth and controlled stripping of 24-fiber ribbons.

## Micro Electronics

### Soft-Strip Thermal Strippers

Soft-Strip stripping tools from Micro Electronics have integral heating elements which enable them to soften and strip such coatings and insulations as Myelen, KAPTON, TEFLON, PVC, and HYTREL.  The Soft-Strip system permits precise stripping of these tough coatings with less than three pounds of peak pulling force for multi-fiber- ribbon, and less than one pound for single fiber.  The result is no fiber damage and higher quality splices and connections. Units are available for optical fiber (180-1000um) and all standard multifiber ribbons (encapsulated, bonded, and ribbonized types).  Custom tools are also available.

### Ordering Information

| Part Number | Manufacturer | Description |
|---|---|---|
| TSFB-125 | Jonard | Fixed Blade Thermal Stripper |
| TSAB-40 | Jonard | Adjustable Blade Thermal Stripper |
| The above Jonard tools require a platform for operation (sold separately) | | |
| S010340 | AFL Tele. | HJS-02 Hot Jacket Stripper (12 fibers max) |
| S012960 | AFL Tele. | HJS-03-24 Hot Jacket Stripper (24 fibers max) |
| Both the HJS-02 and HJS-03-24 | -Require a fiber holder if not equiped with the SAD-01 single fiber adapter (sold separately) -Require AC adapter if not being used with an AFL fusion splicer (sold separately) | |
| MS-4T-06S-13-FS | Micro Electronics | Soft-Strip 250/125um Thermal Stripper |
| MS-4T-08S-40-FS | Micro Electronics | Soft-Strip 900/125um Thermal Stripper |
| MS-3T-06-G2 | Micro Electronics | Soft-Strip 12 Fiber Thermal Ribbon Stripper |
| The above Micro Electronics tools require the  MS-T3 AC Adapter (sold separately) | | |

HAND TOOLS

# Thermal Buffer Strippers

## Jonard Buffer Stripper Platforms

| Part Number | Description |
|---|---|
| TSUC-40 | Universal Clamp |
| TSFP-125 | Fitel - Fujikura Style Platform |
| TSPE-125 | Ericcson Style Platform |

## AFL Telecommunications Hot Jacket Stripper Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| S012964 | HJS-03-24PA Power Assist Tool for HJS-03-24 | | |
| S014389 | ADC-09 AC Adapter for HJS-02 and HJS-03-24.  (Requires Power Cord, p/n S014390) | | |
| S014390 | ACC-09 Power Cord for ADC-09 AC Adapter | | |
| S010428 | SAD-01 Single Fiber Adapter for HJS-02 | | |
| S010436 | Replacement Blade for HJS-02 Hot Jacket Stripper | | |
| **Fiber Holders** | | | |
| S013800 | FH-50-250   (250 micron-single fiber) | S013804 | FH-50-900   (900 micron-single fiber) |
| S013808 | FH-50-2      (2 Fiber) | S013812 | FH-50-4      (4 Fiber) |
| S013816 | FH-50-6      (6 Fiber) | S013820 | FH-50-8      (8 Fiber) |
| S013824 | FH-50-10    (10 Fiber) | S013828 | FH-50-12    (12 Fiber) |
| S012988 | FH-16         (16 Fiber) | S012968 | FH-24         (24 Fiber) |

## Micro Electronics Soft-Strip Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| MS-CB-1 | Single-sided Blade Cleaning Brush. | MS-CB-2 | Double-sided Blade Cleaning Brush. |
| MS-PT-1 | Blade and Guide Removal Tool | MS-BR-1 | AA Ni-MH Battery Recharger. |
| MS-BC-2 | 6V Battery with Leather Case. | MS-BL | 6V Battery Leads |
| **AC Adapters** | | | |
| MS-T3 | North America and Japan | MS-T5 | Europe, China, Middle and Far East |
| MS-T4 | England and Hong Kong | MS-T6 | Australia and New Zealand |
| **Handle Assemblies** | | | |
| MS-4T-E | Single Fiber, AC & 6V Battery Pack | MS-3T-E | Multi-Fiber, AC & 6V Battery Pack |
| MS-4B-E | Single Fiber, AA Battery Pack | MS-3B-E | Multi-Fiber, AA Battery Pack |
| **Replacement Heater Cartridges** | | | |
| MS-4T-E | 1" Heater Carridge for MS-3B and MS-4B tools only.  (30mm Maximum Strip Length) | | |
| MS-4B-E | 2" Heater Carridge for MS-3T and MS-4T tools only.  (60mm Maximum Strip Length) | | |

HAND TOOLS

# Custom Fiber Strippers

## Micro Electronics
### Micro-Strip & Soft-Strip Fiber Optic Buffer Strippers

**Micro-Strip** stripping tools from Micro Electronics strip buffered fiber up to 2360um, quickly and easily. You can use two standard handles with interchangeable cutter blade sets, fiber guides and fiber guide locks to strip and install the proper cutter blade sets, tube guides, and tube guide locks.

**Soft-Strip** stripping tools from Micro Electronics have integral heating elements which enable them to soften and strip such coatings and insulations as Myelen, KAPTON, TEFLON, PVC, and HYTREL. The Soft-Strip system permits precise stripping of these tough coatings with less than three pounds of peak pulling force for multi-fiber-ribbon, and less than one pound for single fiber. The result is no fiber damage and higher quality splices and connections. Units are available for optical fiber (180-1000um) and all standard multifiber ribbons (encapsulated, bonded, and ribbonized types). Custom tools are also available.

### Ordering Information

| Part Number | Description |
|---|---|
| MS1- XX S- YY -FS | Micro-Strip® MS1 Fiber Stripping Tool. |
| MS-4T- XX S- YY -FS | Soft-Strip® MS4 Thermal Single Fiber Stripping Tool. AC or 6V Battery Powered. |
| MS-4B- XX S- YY -FS | Soft-Strip® MS4 Thermal Single Fiber Stripping Tool. AA Battery Powered. |

\* Replace the "XX" and "YY" with the Blade Set and Tube Guide numbers found on the tables below.

### Blade Sets

| XX | Fiber Cladding | Blade Diameter | Replacement Blade Set* | Blade Color |
|---|---|---|---|---|
| 04 | up to 80 um | .0045 (114um) | MS1-RB-04S | Clear |
| 05 | 85 - 120 um | .0055 (140um) | MS1-RB-05S | Lavender |
| 06 | 125 - 135 um | .0063 (160um) | MS1-RB-06S | Purple |
| 08 | 125 - 175 um | .0080 (203um) | MS1-RB-08S | Red |
| 10 | 180 - 230 um | .0100 (254um) | MS1-RB-10S | Light Blue |
| 12 | 235 - 280 um | .0120 (305um) | MS1-RB-12S | White |
| 14 | 285 - 330 um | .0140 (356um) | MS1-RB-14S | Dark Green |
| 16 | 335 - 380 um | .0160 (406um) | MS1-RB-16S | Orange |
| 18 | 385 - 430 um | .0180 (457um) | MS1-RB-18S | Yellow |
| 21 | 435 - 500 um | .0210 (533um) | MS1-RB-21S | Royal Blue |
| 23 | 505 - 550 um | .0230 (584um) | MS1-RB-23S | Maroon |
| 25 | 555 - 600 um | .0250 (635um) | MS1-RB-25S | Light Green |
| 28 | 605 - 680 um | .0280 (711um) | MS1-RB-28S | Black |
| 31 | 685 - 750 um | .0310 (787um) | MS1-RB-31S | Tan |
| 34 | 755 - 830 um | .0340 (864um) | MS1-RB-34S | Pink |
| 37 | 835 - 900 um | .0370 (940um) | MS1-RB-37S | Gray |
| 44 | 905 - 1050 um | .0440 (1118um) | MS1-RB-44S | Dark Brown |
| 54 | 1055 - 1350 um | .0540 (1372um) | MS1-RB-54S | Natural |

*Replacement Blade Sets include two cutter blade sets packaged together with a matching fiber guide lock. Each blade set consists of a pair of joined, matched blades which must be snapped apart prior to use. Matched cutter blade sets are NOT interchangeable, and must only be used with their matching half.

### Tube Guides

| YY | Part Number | Buffer Diameter |
|---|---|---|
| 07 | MS1-RT-07 | up to 180 um |
| 10 | MS1-RT-10 | 180 - 250 um |
| 13 | MS1-RT-13 | 250 - 343 um |
| 16 | MS1-RT-16 | 343 - 407 um |
| 18 | MS1-RT-18 | 407 - 457 um |
| 21 | MS1-RT-21 | 457 - 533 um |
| 25 | MS1-RT-25 | 533 - 635 um |
| 31 | MS1-RT-31 | 635 - 787 um |
| 35 | MS1-RT-35 | 787 - 889 um |
| 40 | MS1-RT-40 | 889 - 1016 um |
| 46 | MS1-RT-46 | 1016 - 1168 um |
| 52 | MS1-RT-52 | 1168 - 1321 um |
| 55 | MS1-RT-55 | 1321 - 1397 um |
| 63 | MS1-RT-63 | 1397 - 1600 um |
| 67 | MS1-RT-67 | 1600 - 1702 um |
| 70 | MS1-RT-70 | 1702 - 1778 um |
| 76 | MS1-RT-76 | 1778 - 1930 um |
| 81 | MS1-RT-81 | 1930 - 2057 um |
| 86 | MS1-RT-86 | 2057 - 2184 um |
| 93 | MS1-RT-93 | 2184 - 2362 um |

**HAND TOOLS**

# Custom Fiber Strippers

## Miller

### No-Nik Fiber Optic Buffer Strippers

### Features & Benefits

- 22 different patented NO-NIK® tools in sizes ranging from 102 to 1,372 microns
- Accurate to -0mm, +.0127mm
- Exclusive centering device positions fiber/wire for precise scoring and removal of buffer/insulation
- Razor-sharp blades score buffer/insulation without cutting through it
- Color-coded, cushion-grip handles for quick identification
- Plastic heads, which make contact only with the buffer/insulation, center and support your work on both sides
- Cutting blades made from razor quality steel score the buffer/insulation completely
- Back-up blades support the cutting blades, nest positively, and "lock up" when the tool is closed to maintain perfect concentricity
- Buffer/insulation being removed acts as guide and protection for the fiber/wire
- Stripping blade diameter clearly marked on plastic head
- Arrow indicates direction pressure should be applied when stripping

## Miller

### FO103S Fiber Optic Buffer Strippers

### Features & Benefits

- For stripping 250 micron buffer coating from 125 micron optical fiber and other custom sizes
- Precision diameter hole & V-opening in blade allow for accurate buffer coating removal
- Factory set, requires no adjustment
- Prevents scratching or nicking of optical fiber
- All cutting surfaces are precision formed, hardened, tempered and ground assuring precise buffer removal
- Made in the USA

| Fiber Cladding | No-Nik Part Number | No-Nik Handle | FO103S Part Number |
|---|---|---|---|
| 85-120um | NN102 | Navy | FO103-S100 |
| | NN127 | Silver | FO103-S140 |
| 125 - 175um (< 500um Buffer) | NN152 | Gold | FO103-S150 |
| | | | FO103-S162 |
| | NN175 | Mustard | FO103-S175 |
| | | | FO103-S187.5 |
| 125 - 175um (> 500um Buffer) | NN203 | Red | FO103-S200 |
| | | | FO103-S225 |
| | NN254 | Lt. Blue | FO103-S250 |
| | | | FO103-S280 |
| 235 - 280um | NN305 | White | FO103-S300 |
| 435 - 500um | NN021 | Royal Blue | FO103-S525 |
| 905 -1050um | NN1118 | Brown | -- |
| 1055 - 1350um | NN1372 | Clear | -- |

# Jacket & Buffer Strippers

## Miller
### CFS-2 Jacket & Buffer Stripper

- For stripping 125 micron fiber with 250 micron buffer coating
- 1.0 mm diameter stripping hole at the tip of the tool can be used to strip the fiber jacket
- 140um diameter hole & V-opening in blade allows removal of 250 micron buffer coating from 125 micron fiber
- Pre-set at the factory - no adjustments needed
- Will not scratch or nick glass fiber
- All stripping surfaces are manufactured to precise tolerances to assure clean, smooth strips
- Comfort-grip, ergonomic handles
- Lock to hold tool closed when it is not in use

## Miller
### FO-103-D-J "Dual Hole" Jacket & Buffer Stripper

- Second hole for stripping 2-3mm fiber jackets & standard 125um stripping (250um removal to 125um)
- New Dual hole model offer the same quality of our standard FO 103-S fiber tool coupled with a second hole
- Easy-to-read stripping diagrams imprinted on handles

## Miller
### FO-103-T-250-J "Tri-Hole" Jacket & Buffer Stripper

- New 3-hole model performs all common fiber stripping functions in one compact tool
- Standard 250 to 125 micron stripping
- Remove 900 tight buffer to 250 micron buffer coating
- Hole for removal of 2-3mm fiber jackets
- Same consistent quality and features found in our standard FO 103-S tool
- Also available: FO 103-T-400-250 Fiber Optic Stripper for 400 micron coated PM Fiber

## Ideal
### 45-350 Lite-Strip Jacket & Buffer Stripper

- V-notch blades strip a wide range of outer cable jacket insulations
- Replaceable precision-ground blades cleanly strip insulations and coatings
- New funneled hold makes cable insertion easier
- Improved spring mounting returns handles to original position after every application
- One-step, 900 micron stripping hole provides broader stripping range
- Extra durable to withstand normal drops without requiring tool alignment
- New gauge color makes fiber and hole identification easier
- Improved comfort-grip handles for an easier, more comfortable stripping process

## Ideal
### 45-352 MiniLite-Strip Jacket & Buffer Stripper

- Small stripping v-notch is designed to remove buffer and coating material from 125μ fiber
- Large stripping v-notch is designed to strip wide range of outer cable jacket insulations
- Blade area heat-treated for durability
- Laser marked for easy identification
- Extra durable to withstand normal drops without requiring tool realignment

**HAND TOOLS**

# Jacket & Buffer Strippers

## Jonard

### JIC-375 3-Hole Jacket & Buffer Stripper

- Three hole Fiber Optic Stripper model performs all common fiber stripping functions.
- This Fiber Optic Stripper strips the 1.6 - 3 mm fiber jacket down to the 600-900 micron buffer coating.
- The second hole strips the 600-900 micron buffer coating down to the 250 micron coating.
- The third hole is used to strip the 250 micron cable down to the glass fiber without nicks or scratches.

## Paladin Tools

### PA-1163 FiverOptic Jacket & Buffer Stripper

- Separate stripping cavities for each separate function
- Strips outer jacket from 2.0-2.4 mm, 2.8-3.0 mm and 2.0-3.0 loose tube fiber
- Strips 900um buffer from loose buffer without removing acrylate
- Strips buffer and acrylate from 900/125um and 250/125um fiber
- Rubber-embedded handles
- Locking handle for safe transport
- Ergonomic design ensures optimum comfort, ease of use and prevents awkward wrist bends
- Precision, CNC-formed stripping areas for reliable, accurate strips
- Factory calibrated and locked so that it stays set

### Ordering Information

| Part Number | Manufacturer | Description |
|---|---|---|
| CFS-2 | Miller | Fiber Optic Jacket and Buffer Coating Stripper |
| FO-103-D-J | Miller | "Dual-Hole" Fiber Optic Jacket and Buffer Coating Stripper |
| FO-103-T-250-J | Miller | "Tri-Hole" Fiber Optic Jacket and Buffer Coating Stripper |
| 45-350 | Ideal | Lite-Strip Fiber Optic Jacket and Buffer Coating Stripper |
| 45-352 | Ideal | MiniLite-Strip Fiber Optic Jacket and Buffer Coating Stripper |
| JIC-375 | Jonard | 3-Hole Fiber Optic Jacket and Buffer Coating Stripper |
| PA-1163 | Paladin Tools | FiverOptic Fiber Optic Jacket and Buffer Coating Stripper |

**HAND TOOLS**

# Simplex Jacket Strippers
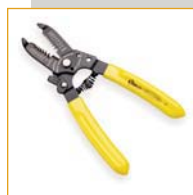
## Miller
### Multi-Wire Strippers/Cutters

- AWG/mm wire sizes embossed/pad printed on tool
- Cushion grips for comfort
- Serrated plier-type nose for wire pulls and loops
- Handle lock mechanism for compact and protective storage for ease of use with pouch
- Wire looping/bending holes conveniently located
- Automatic return spring for ease of use and speed
- Compact and lightweight with narrow nose design
- Black oxide finish for extra corrosion protection
- All cutting surfaces are precision formed, hardened, tempered and ground, assuring clean, accurate strips

## Miller
### CS8 Plier / Wire Cutter / Wire Stripper / Crimper / Bolt Cutter

- Groove-grip plier nose at tip for wire pulling and bending capability
- By-pass scissor action for cleaner cut than conventional "chisel" cut.
- Hardened blade so cutting surfaces stay sharper, longer.
- Strips AWG 10 to AWG 20 - 22 wire
- Complete selection of crimp stations for non-insulated (7-8mm Auto, AWG 10 to 20-22 Electrical) and insulated (AWG 10 to AWG 22 Electrical) common solderless connectors
- Threaded bolt cutters prevent damage to 6 popular bolts - 4-40, 5-40, 6-32, 8-32, 10-32, 10-24
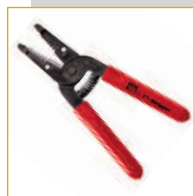
## Ideal
### Premium T-Stripper Wire Stripper

- Form-ground, hardened, knife-type blades for accurate stripping
- Tough steel construction
- Built-in wire cutter and wire looping holes
- Plier nose for extra gripping strength
- Laser etched wire gauge markings
- Spring-loaded automatic opening
- Corrosion resistant, black oxide finish
- Contoured, comfort-grip handles to reduce operator fatigue

### Ordering Information

| Part Number | Manufacturer | Recommended Cable Diameter* | Wire Range | | Description |
| | | | AWG | mm | |
|---|---|---|---|---|---|
| 721 | Miller | 3.0mm and Up | 22 to 10 | 0.6 to 2.6 | Multi-Wire Stripper |
| 821 | Miller | 2.0mm to 3.0mm | 26 to 16 | 0.4 to 1.3 | Multi-Wire Stripper |
| 921 | Miller | Up to 2.0mm | 30 to 20 | 0.25 to 0.8 | Multi-Wire Stripper |
| CS8 | Miller | 3.0mm and Up | 22 to 10 | 0.6 to 2.6 | Plier / Wire / Cutter / Wire Stripper / Crimper / Bolt Cutter |
| 45-215 | Ideal | 2.0mm to 3.0mm | 20 to 12 | 0.8 to 2.0 | Premium T-5 T-Stripper |
| 45-216 | Ideal | 1.6mm to 2.0mm | 26 to 16 | 0.4 to 1.3 | Premium T-6 T-Stripper |
| 45-217 | Ideal | Up to 1.6mm | 32 to 24 | 0.2 to 0.5 | Premium T-7 T-Stripper |
| 45-218 | Ideal | 3.0mm and Up | 16 to 8 | 1.3 to 3.26 | Premium T-8 T-Stripper |

*Recommended Cable Diameter Only. Other jacket sizes can be determined by the stripper's wire range capabilities.

**HAND TOOLS**

# Multi-Fiber Jacket Strippers

## Ideal

**45-349** Simplex/Duplex 3mm Jacket Stripper

- Designed to remove the jacket from 3mm Simplex or Duplex fiber optic cable
- Form-ground. knife type blades for accurate easy stripping without damaging the fiber or Kevlar®
- Contoured, comfort-grip handles to reduce operator fatigue

## Stride Tool

**IFO-1200** Imperial Simplex/Duplex 1.6 - 3mm Jacket Stripper

- Quickly and easily strips jacket from 3 mm, 2 mm, and 1.6 mm Simplex or Duplex Zipcord
- Will not damage the fiber or the Kevlar® strength member
- Ergonomic, non-slip comfort-grip handles
- Precision-ground blades produce consistent clean strips

### Ordering Information

| Part Number | Manufacturer | Cable Diameter | Description |
|---|---|---|---|
| 45-349 | Ideal | 3.0 mm | Jacket Stripper for 3mm Simplex and Duplex Cable |
| IFO-1200 | Stride Tool | 3.0, 2.0, 1.6 mm | Imperial Duplex Jacket Stripper for 3, 2 and 1.6mm Zip-Cord |

## Miller

**FO-R12** Ribbon Fiber Jacket Stripper

- Removes out jackets from 12 count fiber ribbons
- Factory set, requires no adjustment
- Prevents scratching and nicking of optical fibers
- All cutting surfaces are precision formed, hardened, tempered and ground

## Stride Tool

**IFO-1212**  Ribbon Fiber Jacket Stripper

Quickly and easily strips jacketing from 12-fiber ribbon cable.

### Ordering Information

| Part Number | Manufacturer | Description |
|---|---|---|
| FO-R12 | Miller | Jacket Stripper for 12-Fiber Ribbon Cable |
| IFO-1212 | Stride Tool | Jacket Stripper for 12-Fiber Ribbon Cable |

# Buffer Tube Strippers

## Corning
### Midspan Fiber Access Tools

**OFT-000**
The Optical Fiber Access Tool (OFAT) is designed to provide mid-span fiber access in standard Corning Cable Systems ALTOS® Cables.  This rugged hand tool will accommodate buffer tubes from 2.4 to 3.0mm.  The OFAT clamps over a buffer tube.  As the tool is pulled along the buffer tube, two offset blades slit the tube without damaging fibers inside.

**UAT-3000**
Same as the OFT-000 tool but designed to work with 5mm to 24mm tubes.

### Ordering Information

| Part Number | Description |
| --- | --- |
| OFT-000 | Mid-Access Entry Tool for 2.4mm to 3.0mm Tubes |
| OFT-001 | Replacement Blade for OFT-000 |
| UAT-3000 | Mid-Access Entry Tool for 5mm to 24mm Tubes |
| UAT3-BLADES | Replacement Blade for UAT-3000 |

## Miller
### MSAT Midspan Fiber Access Tools

- Quickly and easily access fibers in 2, 2.5 and 3mm buffer tubes in a mid-span location without fiber damage
- All blades precisely factory mounted in tube slitting channels with no adjustment required by the installer
- Tool design incorporates buffer tube size gages on the tool body for easy tube selection
- Convenient spring loaded lever opens and closes the tool
- Lever becomes flush with the top of the tool body when closed
- For use with the following diameter buffer tubes:
    - 2.0mm  /  1.8-2.2 mm (0.071"- 0.086")
    - 2.5mm  /  2.3-2.8 mm (0.090"-0.110")
    - 3.0mm  /  2.8-3.2 mm (0.110"- 0.126")

### Ordering Information

| Part Number | Description |
| --- | --- |
| MSAT | Midspan Fiber Access Tool for 2.0 to 3.0mm Tubes |
| 80794 | Replacement Blade for MSAT and FDS-2-3MM tools.  (2/set) |

**HAND TOOLS**

# Buffer Tube Strippers

## Ideal
### Rotary Buffer Tube Strippers

- Adjustable blades can be set for any depth to help ensure nick-free strips
- Use with fiber optic loose tube, twisted-pair wire, tightly wrapped stranded cables, CATV cable, CB antenna cable, SO, SJ, SJT and other types of flexible power cords
- Includes 3 straight and 1 round blade

### Ordering Information

| Part Number | Description |
|---|---|
| 45-162 | Rotary Buffer Tool Stripper, Grey.  (up to 3.2mm) |
| 45-163 | Rotary Buffer Tool Stripper, Blue.  (3.2mm to 5.5mm) |
| 45-164 | Rotary Buffer Tool Stripper, Blue.  (6.4mm to 14.3mm) |
| 45-165 | Rotary Buffer Tool Stripper, Black.  (4.8mm to 8mm) |
| L-9225 | Replacement blades for 45-164. |
| L-9226 | Replacement blades for 45-162, 45-163 and 45-165. |

HAND TOOLS

# Kevlar Shears

## Miller
**FOKC** Kevlar Shears

- Designed to cut Kevlar® strength members in fiber optic cables
- Powerful quick cutting action
- Full serrated edge for consistant, fast and clean cuts
- Made of high carbon steel specially treated for long life and trouble free cuts

## Miller
**KS-1** Kevlar Shears

- Lightweight shears ideal for cutting Kevlar® strength members found in fiber optic cable construction
- Ergonomic molded handles provide comfort for both right and left handed users
- One micro-serrated blade reduces slippage for more positive cutting action
- Blades made from high carbon molybdenum, and vanadium steel for long life

## Miller
**86 1/2 Series** Kevlar Shears

- High leverage tool for cutting, trimming and slicing through fibers and other tough industrial materials
- Hot-forged, high carbon steel for long life
- Quick action spring response and two sharp points
- 86 1/2SF has red cushioned grips

## Miller
**KC699** Kevlar Shears

- Soft, cushioned oversized bows for operator comfort
- Blades are hardened stainless steel with a fine serration on one blade to grip Kevlar® fibers and prevent slipping while cutting
- Ambidextrous handles for right- and left-hand use
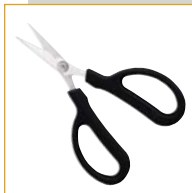
## Ideal
**45-344** Kevlar Shears

- Two-Step process significantly increase the life of this rugged tool
- Superior quality provides the super-hard edges need to stand up to today's demands
- Blades are machined from superior quality high-carbon stainless steel
- Textured cushioned-grip handles

## Jonard
**JIC-186** Kevlar Shears

- High carbon stainless steel blades designed to cut Kevlar®, cabling insulation, tape, cable ties and other material.
- Ergonomic handles for user comfort and durability. Adjustable joint screw under protective cap, serrated blades grip material, sharp and durable 6" long.

**HAND TOOLS**

## Kevlar Shears

### Paladin Tools
**1511** Kevlar Shears

- Hard-chromed serrated edges to easily cut through Kevlar
- Comfortable handles with large finger openings

### Kyocera
**PA-1510A** Ceramic Kevlar Shears

- Kevlar shear with Ceramic blade for extended life

### Ordering Information

| Part Number | Manufacturer | Description |
|---|---|---|
| **High Carbon Stainless Steel** | | |
| FOKC | Miller | Kevlar Shears |
| KS-1 | Miller | Kevlar Shears |
| KS-1P | Miller | Kevlar Shears with Pouch |
| 86 1/2S | Miller | High Leverage Kevlar Shears |
| 86 1/2SF | Miller | High Leverage Kevlar Shears with Cushioned Grips |
| 45-344 | Ideal | Kevlar Shears with Breaker Notch |
| JIC-186 | Jonard | Ergonomic Kevlar Shears |
| **Hardened Stainless Steel** | | |
| KC699 | Miller | Kevlar Shears |
| **Hard Chromed Stainless Steel** | | |
| 1511 | Paladin Tools | Kevlar Shears |
| **Ceramic** | | |
| PA1510A | Kyocera | Ceramic Kevlar Shears |

**HAND TOOLS**

# Heavy Duty Cable Cutters

## Miller

### CXC Heavy Duty Cable

- CXC (yellow handle) effective for cutting up to 0.75 in (19mm) trunk cables
- CXC (blue handle) effective for cutting up to 1.00 in (25.4mm) trunk cables
- Cuts with no cable distortion
- Lightweight, easy to use, compact
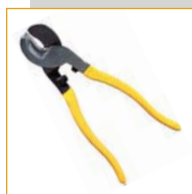
## Ideal

### 35-052 Cable Cutter for 2/0 and Smaller Cable

- Drop-forged high carbon steel construction
- Precision ground, hardened cutting edges provide accurate cuts without cable distortion
- Designed for maximum leverage
- Cuts 2/0 and smaller aluminum and copper cables
- Vinyl coated, comfort-grip handles
- Lifetime guarantee
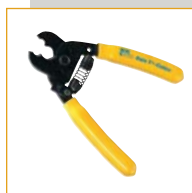
## Ideal

### 45-074 Data T-Cutter

- Cuts round communication cables up to 0.5 inch (12.7mm) and coaxial cable up to RG-9/U
- Curved cutting blades maintain cable geometry for better cable performance
- Steel reinforced center conductors can be trimmed with bolt cutting holes
- Cushioned comfort grip handles
- Locking latch keeps tool closed in pouch

## Miller

### ACS Armored Cable Slitter

- Professional grade tool, ideal for slitting the corrugated copper, steel or aluminum armor layer on the Fiber Feeder, Central Tube, Stranded Loose Tube fiber optic cables and other armored cables
- Versatile design allows jacket or shield slitting on non-fiber optic configurations as well
- Tool slits outer polyethylene jacket and armor in one operation...
- Performs longitudinal slitting and circumferential (ringing) for end stripping
- Blade rotates 90 degrees by activating blade lever, allowing easy midspan preparation (ringing and slitting)
- Adjustable from 0.315" (8mm) to 1.125" (28.6mm) cable O.D.
- "Roller" style cable follower provides cable stability and allows for easier tool movement along the cable
- Rugged anodized aluminum and steel construction

### Ordering Information

| Part Number | Description |
| --- | --- |
| CXC | Miller Heavy Duty Cable Cutter (up to 19mm) |
| CXC-1 | Miller Heavy Duty Cable Cutter (up to 25.4mm) |
| 35-052 | Ideal Cable Cutter for 2/0 and Smaller Cable |
| 45-074 | Ideal Data T-Cutter (up to 12.7mm) |
| ACS | Miller Armored Cable Slitter (8mm to 28.6mm) |
| CB251-K | Miller ACS Replacement Blade Assembly |

**HAND TOOLS**

# Ring Tools

## Miller

### RCS Series Rotary Cable Strippers

- Designed for fast, safe, precise jacket removal of PE, PVC, rubber & other jackets
- Rotary cut to a longitudinal cut along the cable length for end stripping
- Spiral cut for end stripping & mid-span stripping
- Adjustable blade depth
- RCS-114 and MK02 are for smaller cables:  (4.5mm to 28.5mm)
- RCS-158 is for medium sized cables:  (19mm to 40mm)

### MK Series Rotary Cable Strippers

- MK04 is for larger sized cables:  (20mm to 60mm)
- MK02 has a spring-loaded ripping blade at the base of the tool to facilitate insulation removal
- MK02 Spherical Blade for softer insulation is standard;  Chisel point blade for harder coverings optional

### Ordering Information

| Part # | Description | Part # | |
|--------|-------------|--------|---|
| RCS-114 | Rotary Stripper (4.5 - 29mm) | RCS-158 | Rotary Stripper (19 - 40mm) |
| CB231 | RCS-114/158 Rotary Stripper Replacement Blade | | |
| MK02 | Rotary Stripper w/ Hook Blade (4.5 - 28.5mm) | MK02M | Rotary Stripper w/o Hook Blade (4.5 - 28.5mm) |
| 39391 | MK02 Replacement Spherical Cutting Blade (5/set) | 39392 | MK02 Replacement Chisel Point Blade (5/set) |
| MK04 | Cable Stripper (20 -60mm) | 39379 | MK04 Replacement Fixed Blade Assembly |
| 39377 | MK04 Replacement Fixed Blade Cartridge (FC2) | 39378 | MK04 Replacement Fixed Blade Cartridge (FC3) |

**HAND TOOLS**

# Sheath Strippers

## FOD SPEED SLITTER
### FTTH Drop Cable Splitting Tool

This tools was specifically designed for FTTH technicians working with flat fiber drop cables. The FOD SPEED SLITTER™ opens cable jackets easily and safely with one pull. A simple twist of the cable allows the jacket and strength members to separate from the buffer tube leaving fiber undamaged. Just snip off the loosened jacket and splice!

### Ordering Information

| Part # | Description | Part # | |
|--------|-------------|--------|---|
| ACFO2000 | FOD SPEED SPLITTER w/ 2 Spare Blades | AC11782B | ACFO2000 Replacement Blades (5/set) |

## Miller

### FDS Fiber Drop Stripper

- Designed for stripping Flat Drop Fiber Cable used in FTTH "Fiber to the Home" applications
- ONE STEP stripping action that removes the jacket in two locations to expose the dielectric strength members and allowing the quick removal of the jacket
- Tool is small and has a lightweight polymer body for ease of use
- Easily strips Flat Drop lengths of 2-15 feet plus

### FDS-2-3MM Fiber Drop Stripper & Buffer Tube Slitter

- Multi-purpose tool designed for stripping Flat Drop Fiber jacket and accessing 2 mm and 3mm buffer tubes on (FTTH) "Fiber to the Home" applications
- Three individual stripping channels in one compact tool for jacket removal & 2mm and 3mm buffer tube slitting
- Lightweight polymer body
- T-bar handle grip design for extra ease of jacket stripping

### Ordering Information

| Part # | Description | Part # | |
|--------|-------------|--------|---|
| FDS | Fiber Drop Stripper | FDS-2-3MM | Fiber Drop Stripper & Buffer Tube Slitter |
| CB229 | Drop Stripper Replacement Blade (1 ea) | 80794 | Tube Slitter Replacement Blade (2/set) |

Note: 2 each CB229 and 2 sets of 80794 required to replace all the blades on the FDS-2-3MM

## Jonard
### JIC-4366 Optical Fiber Cable Sheath Stripper & Ring Tool

This Cable Sheath Stripper is used for stripping and butting tight buffer optical fiber cables. Use one blade to butt PVC sheathing and use the second blade to strip the sheathing.

Adjustable for .018" or .031" thick plastic, rubber or fabric insulation. One spare blade of each style is included with the tool.

### Ordering Information

| Part # | Description | Part # | |
|--------|-------------|--------|---|
| JIC-4366 | Optical Fiber Cable Sheath Stripper & Ring Tool | | |
| RB-2060/6 | JIC-4366 Replacement Ringing Blades (6/set) | RB-2878/6 | JIC-4366 Replacement Stripping Blades (6/set) |

**HAND TOOLS**

# Splicer's Scissors & Knives

## Miller
**925 Series** Splicer's Scissors

- Multi-purpose service tool
- All exterior surfaces & interior blade surfaces double-plated w/ chrome over nickel to prevent rust & corrosion
- Use for splicing wire; cutting harness ties, insulation materials, medium gauge wires, electrical tape and stripping insulation
- Stripping notches for 19 and 23 gauge wire
- 1.75" Length of Cut
- Scraper and file on back of blade
- Available in a Knife and Scissor Kit

Length: 4.95 in (127.0mm)

### Ordering Information

| Part Number | Description |
|---|---|
| 925C | Splicer Scissors with notches |
| 925CS | Splicer Scissors Serrated with notches |
| 925CS-ERGO | Ergonomic Splicer Scissors Serrated with notches |
| 925CS-KIT | Kit containing CSH96 Holster, 925CS Scissors and CK6 Knife |

## Miller
**CK6** Splicer's Knife

- Tough, Coping-Style Blade
- Forged Steel
- Full-Size, High-Dielectric, Red-Cushioned Handle

Length: 6.2 in (159.0mm)

### Ordering Information

| Part Number | Description |
|---|---|
| CK6 | Splicer Knife, Full Size, High-Dielectric and Red-Cushioned Handle |
| CSH96 | Leather Knife and Scissor Holster for the 925C or 925CS Splicer's Scissors and the CK6 Splicer's Knife. |

## Ideal
**35-091** Splicer's Knife

- High-carbon steel blade remains sharp and cuts easily through many insulation types
- Comfortable, full size, no slip handle for easy use
- Durable leather holder

### Ordering Information

| Part Number | Description |
|---|---|
| 35-091 | Splicer Knife and Holster |

**HAND TOOLS**

# Crimp Tools

## Paladin

**1300 Series** Crimp Tools

The original interchangeable-die crimping system with 5 die sets available.

### Ordering Information

| Part Number | Die Set | Description |
|---|---|---|
| PA-1330 | 2043 | 3 Cavity Crimp Tool (HEX .151" .178" .213") - SMA/FC |
| PA-1331 | 2030 | 3 Cavity Crimp Tool (RND 190" .160" .132") - AMP (Tyco) |
| PA-1362 | 2652 | 5 Cavity Crimp Tool (HEX .128" .151" .215" .197" .178") - SCII, FC, SMA |
| PA-1364 | 2654 | 3 Cavity Crimp Tool.  (.190" HEX .105" RND .090" RND) - Lucent STII |
| PA-1369 | 2669 | 3 Cavity Crimp Tool (RND .120" .137" .190") - 3M SC-FC |
| PA-1375 | 2685 | 4 Cavity Crimp Tool (.151" HEX .178" HEX LC RND .190" RND)  3M SC/ST & Lucent/Krone LC, SMA, FC, MT-RJ |
| PA-1302 | NA | Crimp Frame Only |

## Amphenol

**927-1180** 5 Cavity Crimp Tool

- .105" Hex
- .137" Hex
- .151" Hex
- .178" Hex
- .255" Hex

## FiberSource

**FS00068-U** 5 Cavity Crimp Tool

- .118" Hex
- .120" Round
- .128" Hex
- .137" Round
- .190" Round

## Jonard

**UC-8039** 5 Cavity Crimp Tool

- .134" Round
- .139" Hex
- .151" Hex
- .178" Hex
- .190" Round

### Ordering Information

| Part Number | Description |
|---|---|
| 927-1180 | Amphenol 5 Cavity Crimp Tool (Hex .105" .137" .151" .178" .255") |
| FS00068-U | FiberSource 5 Cavity Crimp Tool (Hex .118" .128" / RND .120" .137" .190") |
| UC-8039 | Jonard 5 Cavity Crimp Tool (Hex .139" .151" .178" / RND .134" .190") |

**HAND TOOLS**

# Fiber Optic Scribes

**HAND TOOLS**

## Miller

### DS-60-C & DS-90-W Diamond-Tip Scribes

- Quality fiber optic scribes featuring a protective retractable barrel with pocket clip and a stainless steel mounted diamond tip in your choice of conical or wedge shapes.
- These scribes are specially made for the "scratch and pull" technique of scribing optical fiber.  The wedge shape provides a more durable edge.

## Miller

### CS-30-W Carbide-Tip Scribe

- The CS-30-W is a 30-degree wedge-tip carbide scribe 3.8mm wide for long life and simple fiber termination
- Housed in a rugged, anodized aluminum casing 112mm long and 25mm in diameter, the CS-30-W fits comfortably in either hand and in your pocket or tool kit
- The CS-20-W includes a convenient pocket clip and soft, brightly colored, protective "Squeeze and Pull" cap for easy and quick tool selection.

## Miller

### CS-30-DE Double End Carbide-Tip Scribe

- Reversible carbide blade edged on both ends to double the life of the tool
- 5mm wide blade wider than conventional scribe blades for greater visibility
- "Soft feel" grip on rugged anodized aluminum casing
- Hex-shaped end to prevent scribe from rolling off work table
- Plastic cap protects blade when tool is not in use
- Convenient pocket clip
- Carbide Blade Replacement Part No.:  46122

## Ideal

### Ruby, Sapphire & Carbide "Reversable" Scribes

- Professional quality blade styles to choose from to meet specific needs
- Easy handle identification:  Ruby = Red / Sapphire = Blue / Carbide = Black
- 30 degree single bevel - DualScribe™ reversible blade doubles tool life
- Soft non-slip grip provides precise control during scribing
- Clear safety cap protects the blades from damage when not in use

## Bruce Diamond

### Diamond & Sapphire Scribes

- Features the best surface finish attainable
- Optimum cutting edge that lends itself to high accuracy and long life
- Wedge or Cone tips
- Available in Pen & Cap or Twist-Retractable Form

## Molex Fiber Optics

### Connector Cleave Tools

The Molex cleave tool is designed to repeatedly and accurately cleave the fiber at a controlled length just above the surface of the ferrule. This eliminates the need for a bead of epoxy and extensive operator training. The result is a substantial reduction in polishing time and a significant improvement in production yield.

# Fiber Optic Scribes

### Ordering Information

| Part Number | Manufacturer | Description |
|---|---|---|
| **Diamond - Wedge** | | |
| DS-90-W | Miller | 90° Wedge Tip Diamond Scribe (Click-Retractable) |
| RHS/FO-DW | Bruce Diamond | 90° Wedge Tip Diamond Scribe (Twist-Retractable) |
| UHS/FO-DW | Bruce Diamond | 90° Wedge Tip Diamond Scribe (Pen & Cap) |
| **Diamond - Cone** | | |
| DS-60-C | Miller | 60° Cone Tip Diamond Scribe (Click-Retractable) |
| RHS/FO-DC | Bruce Diamond | 60° Cone Tip Diamond Scribe (Twist-Retractable) |
| UHS/FO-DC | Bruce Diamond | 60° Cone Tip Diamond Scribe (Pen & Cap) |
| UHS-800-60 | Bruce Diamond | 60° Economy Cone Tip Diamond Scribe (Pen & Cap) |
| **Carbide - Wedge** | | |
| CS-30-W | Miller | 30° Wedge Tip Carbide Scribe (Pen & Cap) |
| CS-30-DE | Miller | Double End 30° Wedge Tip Carbide Scribe (Pen & Cap) |
| 45-359 | Ideal | DualScribe Reversable 30° Wedge-Tipped Carbide Scribe (Pen & Cap) |
| **Sapphire - Wedge** | | |
| 45-358 | Ideal | DualScribe Reversable 30° Wedge-Tipped Sapphire Scribe (Pen & Cap) |
| RHS/FO-SAPHW | Bruce Diamond | 90° Wedge Tip Diamond Sapphire (Twist-Retractable) |
| **Ruby - Wege** | | |
| 45-357 | Ideal | DualScribe Reversable 30° Wedge-Tipped Ruby Scribe (Pen & Cap) |
| **Connector Cleave Tools** | | |
| 86753-2000 | Molex | 2.5mm Universal Cleave Tool (ST, STII, FC, SC, FDDI, ESCON) |
| 86773-2000 | Molex | LC Cleave Tool |
| 86755-2000 | Molex | FC/APC and SC/APC Cleave Tool |

HAND TOOLS

## Polishing Pucks

For smaller jobs or for working in the field, hand polishing can be the most cost effective solution. Although hand polishing is typically recommended for multimode applications, it is possible to achieve adequate results in single mode as well. FOC offers the following polishing pucks as well as hand polishing procedures to go with them. Please contact us for technical assistance or more information.

### Ordering Information

| Part Number | Type | Mfgr | Description |
|---|---|---|---|
| **2.5mm Universal for FC, SC or ST Connectors** | | | |
| CSS-PC2.5A | 2.5mm | CSS | Stainless Steel 2.5mm Universal Polishing Puck. (Wet or Dry Polishing) |
| EFA60 04 ASSY | 2.5mm | EGIDE | Stainless Steel 2.5mm Universal Polishing Puck. (Dry Polishing) |
| EFA64 01 001 | 2.5mm | EGIDE | Glass Filled Nylon 2.5mm Universal Polishing Puck. Up to 500 Polishes |
| **1.25mm Universal for LC or MU Connectors** | | | |
| CSS-PC1.25 | 1.25mm | CSS | Stainless Steel 1.25mm Universal Polishing Puck. (Wet or Dry Polishing) |
| EFA60 06 ASSY | 1.25mm | EGIDE | Stainless Steel 1.25mm Universal Polishing Puck. (Dry Polishing) |
| EFA64 10 001 | 1.25mm | EGIDE | Glass Filled Nylon 1.25mm Universal Polishing Puck. Up to 500 Polishes |
| **Connector Specific** | | | |
| GSR-PP-006 | Biconic | GSR | Stainless Steel Biconic Polishing Puck |
| 106750-1000 | FC | Molex | Stainless Steel FC Polishing Puck |
| 106755-1000 | FC/APC | Molex | Stainless Steel FC/APC Polishing Puck |
| 106730-1000 | FDDI | Molex | Stainless Steel FDDI Polishing Puck |
| HFBR-4593 | HFBR-45XX | Agilent | Plastic HFBR-45XX Polishing Kit. Includes polishing puck and paper. |
| CSS-LC | LC | CSS | Stainless Steel LC Polishing Puck (Wet or Dry Polishing) |
| CSS-LC/APC | LC/APC | CSS | Stainless Steel LC/APC Polishing Puck (Dry Polishing) |
| 900-118-1305 | LC Duplex | Stratos | Plastic LC Duplex Polishing Puck |
| EFA64 08 001 | MTRJ | EGIDE | Stainless Steel MTRJ Polishing Puck |
| EFA64 08 002 | MTRJ | EGIDE | Glass Filled Crastin MTRJ Plastic Polishing Puck. Up to 500 polishes. |
| 106763-1000 | SC | Molex | Stainless Steel SC Polishing Puck |
| 86765-1000 | SC/APC | Molex | Stainless Steel SC/APC Polishing Puck |
| 927-1020 | SMA 905 | Amphenol | Stainless Steel SMA 905 Polishing Puck |
| 927-100-2008 | SMA 906 | Amphenol | Stainless Steel SMA 906 Polishing Puck |
| 106710-1000 | ST | Molex | Stainless Steel ST Polishing Puck |
| **Military** | | | |
| FSPP-132-00-001 | M29504/14/15 | AFSI | M29504/14/15 Polishing Puck for 2.0mm Pins and Sockets |
| 0701-4100 | M29504/14/15 | Kitco | M29504/14/15 Polishing Puck for 2.0mm Pins and Sockets |
| 0721-1530 | M29504/4/5 | Kitco | M29504/4/5 Polishing Puck for 1.6mm Pins and Sockets |
| 182-001P | M29504/4 | Glenair | M29504/4 Polishing Puck for 1.6mm Pins |
| 182-001S | M29504/5 | Glenair | M29504/5 Polishing Puck for 1.6mm Sockets |

**HAND TOOLS**

# Safety Kit

## Miller
### FS9500 Fiber-Safe Safety Kit

Miller, the leader in Fiberoptic/Telecom tools, has developed a Fiber-Safe™ safety kit specifically for working safely with glass fiber.  Its contents include a Fiber-Safe polishing /work mat, fiber scraps trash can, splinter removal tweezer, ten bifurcated cleaning swipes, each with a self-contained alcohol dispensing tube, and safety glasses. Each kit is provided in a see-through merchandising tube with a hang tab for display board or rack.

**Polishing/Work Mat**
The vinyl 35.5cm x 56cm (14" x 22") black work mat serves a dual purpose. Its primary function is to allow you to easily see the fiber scraps instead of trying to find them on a lighter colored work surface.  It can also serve as a sub-surface for some polishing applications.  Instead of using a hard, non-giving surface, you have a resilient mat that depresses easily and allows you to quickly pick up the fibers you are working on.

**Fiber Scraps Trash Can**
The disposable fiber scraps trash can gives you the safest method of disposing of glass fiber scraps because it can be incinerated when full.

**Splinter Removal Tweezer**
The splinter removal tweezer's teflon coating provides the cushioning you need to remove glass fiber splinters without shattering or breaking the glass.

**Bifurcated Cleaning Swipes**
You will appreciate the bifurcated (two-pronged) swipes that put an end to working with messy bottles of alcohol and hand wipes to clean fiber ends before splicing, cleaving or terminating fiber. The tube contains 99% isopropyl alcohol. Hand pressure breaks the seal, and the alcohol is dispensed only when you squeeze the tube, reducing evaporation and alcohol waste.

**Safety Glasses**
The safety glasses, which should always be worn when working with fiber, complete the kit. They have a single lens wrap-around feature to provide additional safety, the latest technology in safety glasses.

### Ordering Information

| Part Number | Description |
|---|---|
| FS100 | Fiber-Safe 14 x 22 inch Work Mat |
| FS200 | Fiber-Safe Disposable Fiber Scraps Trash Can |
| FS300 | Fiber-Safe Wrap-around Safety Glasses |
| FS400 | Fiber-Safe Pre-moistened Bifurcated Alcohol Swabs |
| FS500 | Fiber-Safe Teflon Coated Fiber Splinter Removal Tweezers |
| FS9500 | Fiber-Safe Kit Contains Workmat, Fiber Scraps Trash Can, Safety Glasses, Bifurcated Swabs and Tweezers. |

**HAND TOOLS**

# Working Supplies

**HAND TOOLS**

## Miller

### Softy Series Anti-Static Disposable Work Mats

- Cushioned surface protects delicate assemblies and expensive work surfaces
- Make small parts handling easier and quicker
- Inexpensive and Disposable
- Anti-static and free from contamination
- Meets DOCFF1-70 test for flammability
- Depress easily to give tools a sure grip on parts
- Backing is non-slip, even on smooth glass
- Clean with soap and water without affecting anti-static quality
- Surface resistivity 10-10 - 10-11 ohms/sq
- Meets DOD-STD-1686 for anti-static material

### Ordering Information

| Part # | Description | Part # | Description | Part # | Description |
|--------|-------------|--------|-------------|--------|-------------|
| FS100 | 22" x 14" Mat - Black | M14 | 22" x 14" Mat - White | M11 | 11" x 14" Mat - White |
| R22 | 22" x 180' Roll - White | R44 | 44" x 180' Roll - White | | |
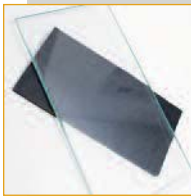
## Rubber Pads & Glass Plates

Fiber Optic Center offers rubber pads and glass plates in a variety of sizes, but the sizes below are recommended for hand polishing applications as they work well with our 3x6" film.  Please contact us for polishing procedures and/or technical assistance.

### Ordering Information

| Part Number | Description |
|-------------|-------------|
| RUBBER-PAD-4x6" | 4x6" Rubber Pad, Buna N 70 Durometer |
| GP-4X8 | 4X8" Glass Polishing Plate with polished edge |

## ÅngströmSpray - Water Spritzers

While polishing, it is sometimes helpful to use a small amount of water to hold the film to the polishing surface and many procedures also recommend the film surface have a small amount of water as well.  In both cases, it is critical that the water be dispersed in a very light and even manner, not allowing it to pool.  The ÅngströmSpray water spritzer creates a fine mist of water, perfect for polishing applications.

### Ordering Information

| Part Number | Description | Part Number | Description |
|-------------|-------------|-------------|-------------|
| AS8 | AngstromSpray 8oz. Spritzer Bottle | AS16 | AngstromSpray 16oz. Spritzer Bottle |

## Cleaning / Piano Wire

Piano wire is used to clean ferrule holes of broken fiber, uncured epoxy and other debris that may collect during the termination process.

### Ordering Information

| Part Number | Description |
|-------------|-------------|
| PW-12 | Piano Wires, 12 Per Vial |

# Working Supplies

## Miller
### Tweezers

**AA-SA** - Strong, fine tips.  General purpose tweezer popular for assembly line work.  Anti-acid/Anti-magnetic stainless steel.  Brushed satin finish.

**4SA** - Extra fine tips.  Excellent for dense access areas in micro-assembly work.  Anti-acid/Anti-magnetic stainless steel.  Brushed satin finish.

**4C** - Extra fine tips.  Excellent for dense access areas in micro-assembly work.  Chrome-plated carbon steel.

**5SA** - Needle sharp tips.  Excellent for die attaching, wire bonding, and handling miniature parts.  Anti-acid/Anti-magnetic stainless steel.  Brushed satin finish.

**7SA** - Extra fine cured tips for working on miniature assemblies.  Curved tips allow hand to rest on work surface for support, which means greater accuracy with less fatigue.  Anti-acid/Anti-magnetic stainless steel.  Brushed satin finish.

**7C** - Extra fine curved tips for working on miniature assemblies.  Curved tips allow hand to rest on work surface for support, which means greater accuracy with less fatigue.  Chrome-plated carbon steel.

**231** - General purpose assembly tweezer with serrated inside points.  Anti-acid/Anti-magnetic stainless steel.  Brushed satin finish.

**226** - General purpose assembly tweezer with serrated inside points.  Chrome-plated carbon steel.

**FS500** - A splinter removal tweezer with a Teflon coating to provide the cushioning needed to remove glass fiber splinters without shattering or breaking the glass.

### Ordering Information

| Part Number | Description |
|---|---|
| AA-SA | Anti-acid/Anti-magnetic Stainless Steel Fiber Tweezers,  (4-7/8") |
| 4SA | Stainless Steel Fiber Tweezers.  (4-1/4") |
| 4C | Chrome Plated Carbon Steel Fiber Tweezers.  (4-1/4") |
| 5SA | Stainless Steel Needle Tip Fiber Tweezers.  (4 1/4") |
| 7SA | Stainless Steel Curved Tip Fiber Tweezers.  (4-1/2") |
| 7C | Chrome Plated Carbon Steel Fiber Tweezers.  (4-1/2") |
| 231 | General Purpose Anti-acid/Anti-magnetic Stainless Steel Fiber Tweezers.  (4-3/4") |
| 226 | General Purpose Chrome Plated Carbon Steel Fiber Tweezers.  (4-3/4") |
| FS500 | Fiber Splinter Removal Tweezers with a Teflon Coating. (4-1/4") |

## Magnifying Loupe

### Ordering Information

| Part Number | Description |
|---|---|
| 119-599 | Bausch & Lomb 10X Magnifying Loupe |

**HAND TOOLS**

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**www.focenter.com**

# Micro Enterprises Inspection Systems

## ME8800
### Optispec In Fixture Inspection System

The Optispec ME8800 series of video microscopes were designed to speed up inspection of fiber optic connectors.  By allowing an operator to inspect connectors while mounted in a polishing fixture, the ME8800 decreases inspection time and makes it possible to quickly re-polish any damaged connectors.  This is accomplished by simply removing the polishing fixture from the polisher, placing the fixture into the insert on the ME8800 stage, and rotating the insert to quickly inspect each connector.  Both X and Y access controls are provided to scan the multi fiber connectors.

The stage design and fixture inserts accommodate all of the standard connectors including the entire MT series of multi-fiber connectors and arrays.  With its ease of operation, the Optispec ME8800 will drastically reduce inspection time.

### Features & Benefits

- Inspect connectors directly from the polishing fixture
- All Models are equipped with 5x, 10x, and 20x objectives
- High Resolution video and CCD camera
- Adjustable Fiber Optic Light Source
- Stage included X-Y axis centering
- Available in NTSC and PAL formats
- Several inserts available for different polishing fixtures
- A variety of options and custom configurations available

### Technical Specifications

| LWD Objective | 5x | 10x | 20x | 40x (optional) |
|---|---|---|---|---|
| Optical Magnification | 50x | 100x | 200x | 400x |
| Approximate Optical Resolution (um) | 2.0 - 3.0 | 0.8 - 1.0 | 0.6 - 0.7 | 0.45 - 0.5 |

### Ordering Information

| Part Number | Description |
|---|---|
| ME8800 | Optispec® Benchtop Inspection System with 100x, 200x, and 400x approximate video magnifications and 5x, 10x and 20x objectives.  Includes high resolution CCD camera, 12" video monitor and Standard 12 Position Stage Adapter for Seikoh Giken 510 and Domaille with Detent Spring (MP8134). |
| **Polishing Fixture Inserts** | |
| MP8166 | 6 Position MT-RJ (flat & angled) works with Domaille fixtures |
| MP8153 | 10 Position MT (flat & angled) works with Domaille fixtures |
| MP8182 | 12 Position MT works with Domaille MT EZ fixtures |
| MP8180 | 12 Position Cam-Loc works with Domaille Cam-Loc fixtures |
| MP8134 | 12 Position with Detent Spring works with Domaille and Seikoh Giken 510 fixtures |
| MP8121 | 12 Position without Detent Spring works with Domaille and Seikoh Giken 510 fixtures |
| MP8111 | 12 Position without Detent Spring works with Seikoh Giken 520 fixtures |
| MP8088 | Adapter plate works with all Seikoh Giken 550 fixtures |

**TEST & INSPECTION**

# Micro Enterprises Inspection Systems
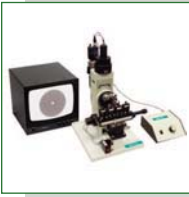
### ME3200
**Optispec Bench-Top Inspection System**

ME3200 video microscope system, represents the high end of the Optispec line of fiber optic connector inspection microscopes. Featuring our most powerful illumination and highest magnification, it is considered a valuable tool in production departments and engineering labs. Equipped with a high-resolution CCD camera, four objectives, precision coarse/line focus controls, and a 150W fiber optic light source, the ME3200 includes up to four connector adapters of the user's choice. These adjustable adapters are mounted to a manual drive linear stage with a quick release latch for easy positioning. The powerful light is optimized with field and aperture diaphragms for maximum resolution and image quality.
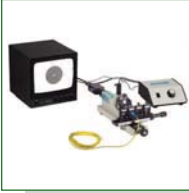
### ME2500
**Optispec Bench-Top Inspection System**

The Optispec ME2500 is a highly versatile video microscope ideal for large and small fiber optic cable assembly companies. Equipped with a high resolution CCD camera and high quality optics, the ME2500 produces a detailed image of the end face allowing the operator to quickly spot scratches and other defects. Light scratch detection is further enhanced by the recent addition of a near UV LED light source. All three models accommodate standard connectors including multi-fiber connectors. Custom stage configurations are also available to meet special requirements in the production requirements in the production area.
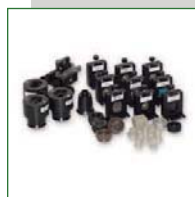
### ME2800
**Optispec Low-Mag Bench-Top Inspection System**

The Optispec ME2800 is a highly versatile video microscope ideal for large and small fiber optic cable assembly companies. Equipped with a high resolution CCD camera and high quality optics, the ME2800 produces a detailed image of the end face allowing the operator to quickly spot dirt and other defects. All models accommodate standard connectors including multi-fiber connectors. Custom stage configurations are also available to meet special requirements in the production area.

### Ordering Information

| Part Number | Description |
|---|---|
| ME3200 | Optispec Benchtop Inspection System with 100x, 200x, 400x and 800x approximate video magnifications with 5x, 10x, 20x and 40x objectives. Includes high resolution CCD camera, linear slide to accept up to 4 connector types and any 4 of the standard adapters. (Requires a monitor) |
| ME2502 | Optispec Benchtop Inspection System with 100x, 200x, and 400x approximate video magnifications and 5x, 10x and 20x objectives. Includes high resolution CCD camera and XY position stage with 2.5mm universal adapter. (Requires a monitor) |
| ME2502/APC | Optispec Benchtop Inspection System with 100x, 200x, and 400x approximate video magnifications and 5x, 10x and 20x objectives. Includes high resolution CCD camera and XY pivot stage with 2.5mm Universal Adapter to allow for PC and APC connectors. (Requires a monitor) |
| ME2503 | Optispec Benchtop Inspection System with 100x, 200x, and 400x approximate video magnifications and 5x, 10x and 20x objectives. Includes high resolution CCD camera, linear slide to accept up to 4 connector types and 4 adapters to be specified at time of order. (Requires a monitor) |
| ME2510-B | Optispec Benchtop Inspection System with 100x, 200x, and 400x approximate video magnifications and 5x, 10x and 20x objectives. Includes high resolution CCD camera and fiber gripper on a fully adjustable stage with X,Y,Z and tilt controls for viewing bare fiber. (Requires a monitor) |
| ME2802 | Optispec Bench Fiber Microscope. 27x - 192x approximate video magnifications. Includes high resolution CCD camera and XY position stage. (Requires an adapter and monitor) |
| ME2803 | Optispec Bench Fiber Microscope. 27x - 192x approximate video magnifications. Includes high resolution CCD camera, linear slide to accept up to 4 connector types and 4 adapters to be specified at time of order. (Requires a monitor) |

**TEST & INSPECTION**

# Micro Enterprises Inspection Systems



## XY Position Stage Adapters
### ME2502, ME2502APC, ME2802

Micro Enterprises Inc. are constantly developing new products for our microscopes and some adapters may not be listed. Please contact us if a specific adapter is not listed below.

- Composite Plastic  =  wear resistant machined plastic
- Stainless Steel      =  improved wear resistance, machined steel
- Hardened Steel     =  best wear resistance, EDM'ed stainless steel

| 2.5mm Connectors | | | |
|---|---|---|---|
| MP2555 | 2.5mm Univ for SC/FC/ST, stainless steel | MP2555-2 | 2.5mm Univ for SC/FC/ST, composite plastic |
| MP2569 | 2.5mm Thru Universal Adapter (view entire ferrule), stainless steel | | |
| **1.25mm Small Form Factor Connectors** | | | |
| MP2570-2 | 1.25mm Adapter for LC/MU, stainless steel | MP2570 | 1.25mm Adapter for LC/MU, composite plastic |
| MP2449 | Keyed LC, hardened steel | MP2478 | Keyed LC, composite plastic |
| **Multiple Fiber Connectors** | | | |
| MP2565 | MT Ferrule, composite plastic | MP2568 | MT APC Ferrule, composite plastic |
| MP2566 | MTP/MPO, composite plastic | MP2564 | MPX, composite plastic |
| MP2557 | Mini MT, composite plastic | MP2597 | MT-RJ, composite plastic |
| **Other Connectors** | | | |
| MP2556 | D4 Adapter, stainless steel | MP2558 | Biconic Adapter, alloy |
| MP2567 | SMA Adapter, stainless steel | | |

**TEST & INSPECTION**

## Micro Enterprises Inspection Systems

### Linear Slide Adapters
**ME2503, ME2803, ME3200**

NOTE: adapters for these models are commonly referred to as "BRACKETS". Included with each bracket are specific "INSERTS" which mate to the fiber optic connector. Replacement inserts are available for most brackets, but some are available only as a fully assembled bracket. Please double check the part number and confirm at the time of ordering whether an insert or complete bracket is needed.

| | | | |
|---|---|---|---|
| **2.5mm Connectors** | | | |
| MP2585 | 2.5mm Universal Bracket for SC/FC/ST/, stainless steel* | | |
| MP2496 | 2.5mm Thru Bracket (view entire ferrule), stainless steel* | | |
| MP2585-2 | 2.5mm Universal Bracket for SC/FC/ST/, composite plastic* | | |
| MP2455 | 2.5/1.25mm Combo Bracket for SC/FC/ST/LC/MU, composite plastic* | | |
| MP2722 | 2.5mm "V" Block assembly, (for ME3200 only)* | | |
| MP2560 | SC Keyed Bracket, alloy* | MP2494 | SC Duplex Bracket, composite plastic |
| MP2561 | FC Keyed Bracket, alloy* | MP2579 | E2000 Bracket, composite plastic* |
| MP3267 | FC Keyed Special Bracket, (2mm Key for ME3200 only)* | | |
| **1.25mm Small Form Factor Connectors** | | | |
| MP2586 | 1.25mm Bracket for LC/MU, composite plastic* | MP2586-2 | 1.25mm Bracket for LC/MU, stainless steel* |
| MP2499 | 1.25mm Bracket for LC/MU, hardened steel* | | |
| MP2573 | LC Keyed Bracket, hardened steel* | MP2495 | LC Duplex, composite plastic |
| MP3260 | 8-position BLC (specify UPC or APC), composite plastic | | |
| MP2455 | 2.5/1.25mm Combo Bracket for SC/FC/ST/LC/MU, composite plastic* | | |
| **Multiple Fiber Connectors** | | | |
| MP2581 | MT Ferrule Bracket, composite plastic | MP2452 | MT Ferrule Bracket, hardened steel |
| MP2583 | MT APC Ferrule Bracket, composite plastic | MP2453 | MT APC Ferrule Bracket, hardened steel |
| MP2583 | Mini MT Ferrule Bracket, composite plastic | MP2450 | Mini MT Ferrule Bracket, hardened steel |
| MP2594 | Mini MT APC Ferrule Bracket, composite plastic | MP2451 | Mini MT APC Ferrule Bracket, hardened steel |
| MP2590 | MTP/MPO Bracket, composite plastic | MP2591 | MTP/MPO APC Bracket, composite plastic |
| MP2582 | MPX Bracket, composite plastic | MP2592 | MPX APC Bracket, composite plastic |
| MP2584 | MT-RJ Bracket, composite plastic | MP2595 | MT-RJ APC Bracket, composite plastic |
| MP2448 | SMC Bracket, composite plastic | | |
| **Other Connectors** | | | |
| MP2436 | Bare Fiber Bracket (requires MP32046 Fiber Chuck) | MP2599 | Biconic Bracket, alloy |
| MP2598 | D4 Bracket, stainless steel | MP2497 | D4 Bracket, composite plastic |
| MP2579 | E-2000 Bracket, composite plastic | MP2580 | SMA 905/906 Bracket, stainless steel |
| MP2439 | 1.6mm Bracket for Mil. Spec./29504-4&5/Bendix Pin, composite plastic | | |
| MP2550 | 1.8mm Bracket, composite plastic | | |

\* For APC connectors simply angle the bracket on the microscope stage 8 degrees

**TEST & INSPECTION**

# Westover Inspection Systems

## FV & FVW Series
### Modular Workstations

All FV series scopes are bench-top video microscopes designed for inspecting patch cords and ferrules just after polishing. These systems include a valuable feature not found anywhere else in the industry. When depressed, the ScratchView button implements a specialized contrast enhancement algorithm over the surface of the glass fiber. This filter makes fine defects readily detectable and dramatically reduces the need for extensive training of technicians. Using this feature can help cut down on disputes between vendors and customers as both sides will see every defect.

The FVW series is our modular system, where the video microscope is separate from the monitor. This allows the user to place the monitor on a shelf while the scope is on the bench. It also helps us keep the cost of the system down, and enables the user to choose their own monitor if they prefer. The FV- prefix items include the microscope, power supply, video cable, and universal 2.5mm adapter. The FVW- prefix items include all of the FV-contents in addition to a monitor of specified size.

### Ordering Information

| Magnification | No Monitor | 9" Monitor | 12" Monitor |
|---|---|---|---|
| 80x | FV-080 | -- | -- |
| 200x | FV-200 | FVW-209 | FVW-212 |
| 400x | FV-400 | FVW-409 | FVW-412 |
| 400x LWD | FV-400-L | -- | -- |

\* 2.5mm adapter cap included with all

## FVD Series
### Digital Workstations

The FVD series is optically similar to the FV series but uses a high resolution digital camera over which the software maintains low level control. Each scope includes a capture button on the top of the unit. Using a USB 2.0 port, the live image is seen on the computer monitor. Once focused, a single click triggers a series of subsequent actions resulting in a complete analysis of the fiber end face and a pass/fail result.

Upon triggering the Quick Capture button, the system uses the large format digital sensor to search a wide area to find the glass fiber. Once found, it captures a resolution image over a smaller area that is centered exactly on the fiber. The low magnification image is analyzed separately from the high magnification image to provide exacting examination on, and near, the glass fiber but still evaluating a wider area for larger debris and damage. These are stitched together and compared to pass/fail criteria to provide a non-subjective grading of the image. All of this happens in less than a second.

### Ordering Information

| Part Number | No Monitor |
|---|---|
| 80x | FVD-2080 |
| 200x | FVD-2200 |
| 400x | FVD-2400 |
| 400x LWD | FVD-2400-L |

\* 2.5mm adapter cap included with all

# Westover Inspection Systems

## FVIW Series
### Integrated Workstations

The FVIW series are our integrated workstations.  These units feature a microscope base attached below the monitor.  This integration saves space on the table and eliminates cumbersome cables.

### Ordering Information

| Magnification | 9" Monitor | 12" Monitor |
|---|---|---|
| 200x | FVIW-209 | FVIW-212 |
| 400x | FVIW-409 | FVIW-412 |
| 400x LWD | FVIW-409-L | FVIW-412-L |

\* 2.5mm adapter included with all

## FVDW Series
### Dual Workstations

The FVDW series are our dual integrated workstations.  These units feature a microscope base attached below the monitor.  This integration saves space on the table and eliminates cumbersome cables.  In the base, we incorporate two patch cord microscopes with an A/B switch to select which image is displayed on the monitor.  These units are popular for a number of reasons.  Some users prefer dual workstations because it allows them to insert one type of adapter on the left side and a different on the right side (ie: Universal 1.25 vs. Universal 2.5, MTP vs. SC, etc.).  This reduces the time to inspect as you do not have to change adapters frequently.

Other users prefer dual workstations because they can choose a 200x system on the left and a 400x system on the right.  This allows for precision inspection of the glass followed by a wide field inspection of the contact zone.

### Ordering Information (9" monitors only)

| Mag A / Mag B | 200x | 400x | 400x LWD |
|---|---|---|---|
| 80x | FVDW-1209 | FVDW-1409 | -- |
| 200x | FVDW-2209 | FVDW-2409 | FVDW-2409-L |
| 400x | -- | FVDW-4409 | -- |
| 400x LWD | -- | -- | FVDW-4409-L2 |

\* Adapter caps not included and must be purchased separately

## FVCW Series
### Combination Workstations

The FVCW series are our combination workstations.  These units feature a microscope base integrated below the monitor.  The base includes an FV style patch cord microscope, an input for a probe scope, an A/B switch to change between the two scopes, and a holder into which the probe can be stored.  In assembly environments there is quite often the need to first inspect the patch cord, then inspect a connector that is already installed within a mating adapter. This system is the classic male/female inspection solution for a factory environments and has been chosen widely since its inception.  Some models are sold with a probe, while others do not include a probe so you can purchase separately.

### Ordering Information

| Magnification | 9" Monitor | 9" Monitor w/ 200x Probe |
|---|---|---|
| 200x | FVCW-2X09 | FVCW-2209 |
| 400x | FVCW-4X09 | -- |

\* 2.5mm adapter cap included with all
\*\* 2.5mm, FC, SC and ST tips also included with the FVCW-2209

TEST & INSPECTION

# Westover Inspection Systems

## FMA Series Adapter Caps

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **Single Fiber Connectors** | | | |
| FMA-U25 | 2.5mm Universal | FMA-U25-P | 2.5mm Universal (Pro Version) |
| FMA-UAPC | 2.5mm Universal, APC | FMA-UAPC-P | 2.5mm Universal, APC (Pro Version) |
| FMA-U12 | 1.25mm Universal | FMA-U12-P | 1.25mm Universal (Pro Version) |
| FMA-UA12-P | 1.25mm Universal, APC (Pro Version) | FMA-U381 | 3.81mm Universal |
| FMA-BIC | Biconic | FMA-COD | Corning OptiTap |
| FMA-D4 | D4 | FMA-E2A | E2000, for PC & APC |
| FMA-FCPC | FC | FMA-FC-APC | FC-APC |
| FMA-LC | LC | FMA-LC-APC | LC-APC |
| FMA-LC-2X | LC Duplex | FMA-MU | MU |
| FMA-SC | SC | FMA-SC-APC | SC-APC |
| FMA-SMA | SMA | FMA-ST | ST |
| FMA-BF1 | Bare Fiber (125um Fiber) | FMA-LEMO1 | LEMO F2 Termini |
| FMA-MIL1 | Mil 29504/14/15 Termini | FMA-MIL2 | Mil 29504/4/5 Termini |
| **Multi-Fiber Connectors** | | | |
| FMA-MTRJ-1 | MTRJ, Simple Type | FMA-MTRJ-2 | MTRJ, X-Y Axis Pan/Scroll |
| FMA-MT | MT, X-Y Axis Pan/Scroll | FMA-MTA | MT-APC, X-Y Axis Pan/Scroll |
| FMA-MTP | MTP, X-Y Axis Pan/Scroll | FMA-MTPA | MTP-APC, X-Y Axis Pan/Scroll |
| FMA-MPX | MPX, X-Y Axis Pan/Scroll | FMA-MPXA | MPX-APC, X-Y Axis Pan/Scroll |
| FMA-MMT-2 | Mini-MT Ferrule, X-Y Axis Pan/Scroll | | |

## Video Monitors

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| VM-9BW | 9" Black & White, NTSC | VM-12BW | 12" Black & White, NTSC |
| VM-13C | 13" Color, NTSC | VM-20C | 20" Color, NTSC |
| VM-27C | 27" Color, NTSC | VM-LCD-64 | 6.4", Color, LCD |

**TEST & INSPECTION**

# PVI Automated Scratch Analysis
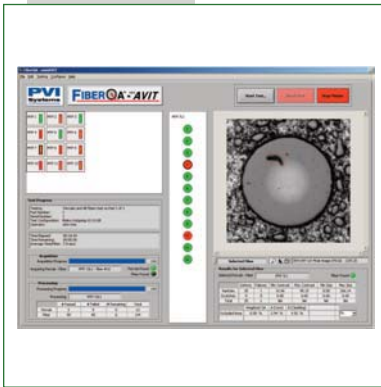
## FiberQA-EFI

### Endface Inspection Software

The FiberQA-EFI software features quantitative defect detection and classifications as scratches; chips, particles, pits and blemishes; and the epoxy ring.  The software package is available for both analog and digital inspection scopes with the analog version requiring a proprietary video card included with the software and the digital version requiring a standard USB port only.  The digital version is currently only set up to work with the Westover FVD-2400 but it can be modified to work with most other digital scopes upon request.

The software has predefined industry standard test parameters, such as IPC 8497-1 and enables customers to implement company-specific testing parameters.  Pass/fail statistics and detailed defect and failure properties (such as size, location, occluded area, and contrast of each scratch and particle) are stored in an SQL-compliant database. Intuitive review using defect overlay on the image using the stored images and results.

## FiberQA miniAVIT

### In Fixture Endface Inspection System

A fully Automated Visual Inspection Tool, the miniAVIT automatically locates, images, and inspects the surfaces of fiber end faces to detect scratches, pits, chips, cracks, loose contamination, and other defects.

Optimized for post-polishing, in-process, and final inspection stages of manufacturing, the miniAVIT provides highly reliable, consistent fiber inspection, user flexibility in test specifications with detailed, auditable documentation of results.

The miniAVIT inspects all the fibers without removing them from the polishing plate, significantly reducing labor time to inspect, re-polish and rework any fibers that fail the inspection criteria For final inspection, custom fixtures may be fitted to the system for testing multiple connectors or small assemblies.

By automatically and precisely inspecting each fiber end face, the miniAVIT enables companies to efficiently ensure the quality of each fiber in all of their products using less labor.

## Ordering Information

| Part Number | Description | | |
|---|---|---|---|
| **FiberQA-EFI Software - Analog** | | | |
| FIBERQA | Analog Inspection Software & Frame Grabber | | |
| FIBERQA-C | Analog Inspection Software & Frame Grabber Pre-installed in a Computer w/ a Flat Panel Monitor | | |
| **FiberQA-EFI Software - Digital** | | | |
| FIBERQA-USB | USB Compatible Inspection Software | | |
| FIBERQA-USB-C | USB Compatible Inspection Software Pre-installed in a Computer w/ a Flat Panel Monitor | | |
| FIBERQA-USB-L | USB Compatible Inspection Software Pre-installed in a Laptop Computer | | |
| **FiberQA miniAVIT Automated End Face Inspection Systems** | | | |
| MINI-AVIT-MT | In-plate inspection system for Multifiber MTs or single fiber ceramic connectors.  Includes Inspection System, Inspection Software & PC w/ Flat Panel Monitor.  Requires polishing plate adapter. | | |
| MINI-AVIT-CERAM | In-plate inspection system with a wider field of view for Single fiber ceramic connector only.  Includes Inspection System, Inspection Software & PC w/ Flat Panel Monitor.  Requires polishing plate adapter. | | |
| SG550-MINI-AVIT | Seikoh Giken SFP-550 Plate Adapter | DOM-MINI-AVIT | Domaille Plate Adapter |

TEST & INSPECTION

# KD Optics Return/Loss Systems

## KDX1000
### Modular Test System

The KD Optics KDX1000 modular test system is intended for use both as a laboratory instrument and for use as production test equipment.  The unit features a mainframe with power meter controller with capacity for multimode, single mode and visible light sources. When used as a production test system, the test software allows full automation, giving the operator a totally hands-free test environment, with the test sequence and results stored in an Access database.

Available options include LED or laser, single or dual, cooled or uncooled along with Insertion loss and return loss measurements.

### Features & Benefits

- Modular test system
- Single or dual sources
- Multimode and Single mode options
- High Repeatability
- Insertion loss and return loss

- Several software options allow automated testing
- Laboratory or Production environment
- Results stored in Access database
- Speeds up testing time
- Cooled 635nm Visible option

### Technical Specifications

| | |
|---|---|
| **Output Level** | -20 dBm LED / -3 dBm Laser |
| **Stability** | +/- 0.05 dB / Hour at 23° C |
| **Spectral FWHM** | Typical 50nm Multimode / 3nm Single Mode |
| **Measurement Range** | +10 to -70 dBm |
| **Measurement Accuracy** | +/- 5% at 23° C |
| **Resolution** | 0.01 dB |

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| KDX1000 | Power Meter including Mainframe | | |
| **Light Sources** | | | |
| KDX0850 | 850nm LED | KDX1300 | 1300nm LED |
| KDX8513 | 850nm/1300nm LED | KDX0635 | 635nm Visible Laser - Cooled |
| KDX1310 | 1310nm Laser | KDX1310C | 1310nm Laser - Cooled |
| KDX1550 | 1550nm Laser | KDX1550C | 1550nm Laser - Cooled |
| KDX1315 | 1310/1550nm Laser | KDX1315C | 1310/1550nm Laser - Cooled |
| **Light Sources with Return Loss Meter** | | | |
| KDX8513R | 850/1310nm LED | KDX1315R | 1310/1550nm Laser |
| **Automated Test Software** | | | |
| KDXALTSM | Multimode | KDXALTSS | Single Mode |
| KDXALTSL | Logging | | |

**TEST & INSPECTION**

# JGR Services Return/Loss Systems

## BR5 Series
### Single Output Backreflection Meter

The BR5 Backreflection Meter is a user-friendly instrument developed with extremely stable optics for precise measurement of backreflection, insertion loss and power. The BR5 features up to four built-in laser sources at wavelengths of 850, 1310, 1490, 1550 and 1625 nm (depending on fiber type).

An intuitive display and keypad, with one-button access to BR and IL modes, simplifies the collection and management of measurement data. Available in single-mode and multimode, the BR5 is ideal for measurements of connectors, components and systems.

The BR5 achieves ultra-stable backreflection measurements at very low values. Accuracy is typically ±0.4 dB and measurement sensitivity is to -80 dB. Insertion loss relative accuracy is ±0.05 dB.

## MBR5 Series
### Multi-Output Backreflection Meter

The MBR5 Multi-Output Backreflection Meter is an instrument developed with extremely stable optics for precise measurement of backreflection, insertion loss and power. Available with 4, 12, 24, or 48 output channels, the MBR5 is a practical choice for both single fiber and ribbon fiber testing. The MBR5 features up to four built-in laser sources at wavelengths of 850, 1310, 1490, 1550 and 1625 nm (depending on fiber type), and can be configured for single mode or multimode measurement.

An intuitive display and keypad simplifies the collection and management of measurement data allowing quick access to the test results from various channels. The MBR5 achieves ultra-stable backreflection measurements at very low values. Accuracy is typically ±0.4 dB and measurement sensitivity is to -80 dB. Insertion loss relative accuracy is ±0.05 dB. In addition, the 10 mm Ge detector option is particularly useful for ribbon connectors with large fiber counts.

### Technical Specifications

| | |
|---|---|
| **Backreflection Range** | 0 to -60 dB Multimode  /  0 to -80 dB Single Mode |
| **Backreflection Accuracy** | +/- 0.4 dB  (add 0.1 dB to the spec for every 1 dB below -60 dB) |
| **Power Range** | 0 to -80 dBm (InGaAs)  /  0 to -60 dBm (Ge) |
| **Absolute Power Accuracy** | +/- 0.25 dB  (measured at -10 dBm) |
| **Relative Power Accuracy** | +/- 0.15 dB Multimode  /  +/- 0.05 dB (< 5 dB Loss)  &  +/- 0.15 dB (> 5 dB Loss) |

**TEST & INSPECTION**

# JGR Services Return/Loss Systems

## Ordering Information

| Wavelength (nm) | BR5 - InGaAs | BR5 - Ge | MBR5 - 4 Channel |
|---|---|---|---|
| **Single Mode** | | | |
| 1310 | BR53000209FA | BR53000509FA | MBR5043000209FA |
| 1550 | BR50050209FA | BR50050509FA | MBR5040050209FA |
| 1310/1550 | BR53050209FA | BR53050509FA | MBR5043050209FA |
| 1550/1625 | BR50056209FA | BR50056509FA | MBR5040056209FA |
| 1310/1550/1625 | BR53056209FA | BR53056509FA | MBR5043056209FA |
| 1310/1490/1550 | BR53450209FA | BR53056509FA | MBR5043450209FA |
| 1310/1490/1550/1625 | BR53456209FA | BR53456509FA | MBR5043456209FA |
| **Multimode (850 / 1300)** | | | |
| 50/125um | NA | BR58300550FA | MBR5048300550FA |
| 62.5/125um | NA | BR58300550FA | MBR5048300562FA |

| Wavelength (nm) | MBR5 - 12 Channel | MBR5 - 24 Channel | MBR5 - 48 Channel |
|---|---|---|---|
| **Single Mode** | | | |
| 1310 | MBR5123000509FA | MBR5243000109FA | MBR5483000109FA |
| 1550 | MBR5120050509FA | MBR5240050109FA | MBR5480050109FA |
| 1310/1550 | MBR5123050509FA | MBR5243050109FA | MBR5483050109FA |
| 1550/1625 | MBR5120056509FA | MBR5240056109FA | MBR5480056109FA |
| 1310/1550/1625 | MBR5123056509FA | MBR5243056109FA | MBR5483056109FA |
| 1310/1490/1550 | MBR5123450509FA | MBR5243450109FA | MBR5483450109FA |
| 1310/1490/1550/1625 | MBR5123456509FA | MBR5243456109FA | MBR5483456109FA |
| **Multimode (850 / 1300)** | | | |
| 50/125um | MBR5128300550FA | MBR5248300150FA | MBR5488300150FA |
| 62.5/125um | MBR5128300562FA | MBR5248300162FA | MBR5488300162FA |

## Adapter Caps

| Connector | 2-5mm Detector | 10mm Detector |
|---|---|---|
| 2.5mm | DA116 | DA216 |
| 2.0mm | DA124 | -- |
| 1.25mm | DA1418 | DA2418 |
| FC | DA101 | DA201 |
| SC | DA103 | DA203 |
| LC | DA118 | -- |
| MU | DA114 | -- |
| SMA | DA109 | -- |
| E2000 | DA115 | -- |
| 12 Fiber Holder | DA113+DA120 | -- |
| MTP/MPO | DA117 | DA217 |
| MPX | DA122 | DA222 |
| MT | DA112 | DA212 |
| MTRJ | DA119 | DA219 |
| Mother Board MT | DA123 | DA223 |

**TEST & INSPECTION**

# JGR Services Optical Switches

## SX4 Series
### Optical Switches

The SX4 switch chassis contains one common input with multiple output channels controlled via keypad or remote interface (GPIB or RS232).

The user-friendly front panel keypad and interface simplifies the selection and confirmation of the output channel.

A variety of configuration options offer additional flexibility. The front panel bulkheads may be fit with typical FC/UPC, FC/APC, SC/UPC, or SC/APC connector types.

### Technical Specifications

| | |
|---|---|
| Fiber Type | Single Mode |
| Wavelength Range | 1280nm - 1660nm |
| Insertion Loss | 0.7 dB |
| Return Loss | > 60 dB |
| Polarization Dependent Loss | 0.02 dB |
| Stability | +/- 0.03 dB |
| Repeatability | 0.02 dB |
| Crosstalk (maximum) | - 80 dB |
| Maximum input Power (optical) | 300 mW |
| Switching time | 10 ms |
| Power Supply | 100 VA maximum |
| Control | Front Panel/GPIB/RS232 |

### Ordering Information

| Connector | 2 Channel | 4 Channel |
|---|---|---|
| FC/UPC | SX40209FP | SX40409FP |
| FC/APC | SX40209FA | SX40409FA |
| SC/UPC | SX40209SP | SX40409SP |
| SC/APC | SX40209SA | SX40409SA |

TEST & INSPECTION

# DORC Interferometers

## Direct Optic Research (DORC)
### ZXPMS+ & ZXMARRAY+ Bench-Top Interferometers

Direct Optical Research Company specializes in the design and manufacturing of non-contact interferometers for the optical fiber and connector industry. DORC's range of ZX-1 Interferometers and Phase Measuring System (PMS) software has been specifically designed to meet the ever-increasing need for accurate, automated, high volume testing of ferrules, ferrule blanks, connector assemblies, pigtails, patchcords, array connectors and optical fiber cleaves.

### Easy to Use

**Auto-Focus** - Extremely easy to use, the operator simply inserts the connector under test into the chuck and initiates the measurement - no centering or focusing is required. The system will then automatically center and focus, perform all the necessary calculations and give a pass/fail analysis in a less than a second for simplex connectors and approximately 16 seconds per section for multi-fiber connectors.

### Zero Downtime

**Computer Independence** - DORC interferometers have a built-in hard drive. Calibrations, operator settings and measurements are all backed up internally so if the computer your are using happens to fail, you can simply replace it with another computer. This allows you to be up and running in minutes while other systems require a complete factory recalibration.

### ZXPMS+
Single Fiber Interferometer

Designed to work with single fiber connectors only, the ZXPMS+ performs fast and repeatable measurements on radius of curvature, apex offset and undercut/protrusion. It also captures a clear image of the tip of the ferrule to give the operator the ability to make a visual scratch analysis at the same time. The "with tilt" feature on the connector chucks allow the unit to be used with APC connectors with the addition of an appropriate adapter plate. System is standard with a laptop computer but can be supplied with a desktop upon request.

### ZXMARRAY+
Single & Multifiber Interferometer

DORC's latest version of their multifiber interferometer is now capable of measuring BOTH multifiber and single fiber connectors. Because the endface of a multifiber connector covers a much larger area, the ZXMARRAY+ uses a camera with a much wider field of view. But even with this wider field of the view, the multifiber system is still capable of performing the same fast and repeatable measurements on single fiber connectors. However, the image captured shows almost the entire endface of the ferrule so a visual scratch analysis would not be recommended using this system as it is using the single fiber system. System is standard with a laptop computer but can be supplied with a desktop upon request.

**Self Calibrating** - The ZXMARRAY+ has a built-in, automatic apex offset calibration system for MT connectors. Before every measurement, the system calibrates itself to ensure absolute accuracy. Other systems require periodic, manual adjustments which leads to down time and the potential for mis-information.

**TEST & INSPECTION**

# DORC Interferometers

## Ordering Information

| Part # | Description |
|---|---|
| ZXMARRAY+ | DORC ZXM-ARRAY Plus Multifiber Interferometer.  Includes Laptop PC (Desktop Optional, if specified on PO) and MT or MT-RJ connector chuck to be specified at time of order. |
| ZXPMSPLUS | DORC ZX-1 Mini PMS PLUS Zoom Interferometer.  Includes Laptop PC (Desktop Optional, if specified on PO).  Requires connector chuck for operation. |

## Accessories

| Part # | Description | Part # | Description |
|---|---|---|---|
| **Multifiber Connector Chucks - ZXMARRAY ONLY** | | | |
| MT CHUCK | MT/MT-APC Chuck including adapters for connectors with & without housings and integrated guide pins | | |
| MTRJ CHUCK | MT-RJ Chuck including adapters for connectors with & without housings and integrated guide pins | | |
| **Single Fiber Connector Chucks** | | | |
| 2.5-WT | Universal 2.5mm with tilt | 1.25-WT | Universal 1.25mm with tilt |
| 2.0-WT | Universal 2.0mm with tilt | 3.0-WT | Universal 3.0mm with tilt |
| BFH-WT | Bare fiber holder (125um) with tilt | | |
| **"Mapped" Reference Connectors (For use with 1H and 1L chucks)** | | | |
| REF2.5 MAN | 2.5mm for Manual Systems | REF1.25 MAN | 1.25mm for Manual Systems |
| REF2.5 PMS | 2.5mm for PMS Systems | REF1.25 PMS | 1.25mm for PMS Systems |
| REF1.25 APC | 1.25mm LC/APC for PMS Systems.  Includes MATCHING 2A adapter plate. | REF2.5 APC | 2.5mm SC/APC for PMS Systems.  Includes MATCHING 2A adapter plate. |
| **Adapter Plates (For use with APC connectors)** | | | |
| FC/APC AP | FC/APC connector adapter plate | LC/APC AP | LC/APC connector adapter plate |
| ST/APC AP | ST/APC connector adapter plate | MU/APC AP | MU/APC connector adapter plate |
| SC/APC AP | SC/APC connector adapter plate | BSC/APC AP | BSC connector adapter plate |
| DIN/APC AP | DIN/APC connector adapter plate | FER/APC AP | APC ferrule adapter plate |
| E2K/APC AP | E2000/APC connector adapter plate | | |
| **Miscellaneous** | | | |
| BAR CODE | Bar code CCD reader for PMS Systems | | |

**TEST & INSPECTION**

# Micro Enterprises Interferometers

## ME2520

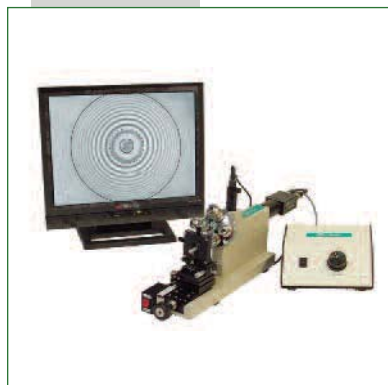### Portable Interferometer

The ME2520 is a field portable interferometer that will allow the user to give a quick, pass/fail analysis with supplied overlay and without the use of a computer or any software.

### Features & Benefits

- 10x Interferometer Lens (215x on screen mag.)
- 20x Inspection Lens (400x on screen magnification)
- 6.4" High Resolution LCD Display
- Quickly Inspect Connector Apex and Radius
- Pivot X-Y Centering Stage for Checking Undercut
- Blue LED Illumination with Variable Intensity Control
- 4-6 hour runtime on full charge
- Built in 24 VDC AC adapter /  charger
- Built in rechargeable NiMH Battery pack
- Heavy duty waterproof Pelican Case
- 19"x 14" x 7"  (w x d x h)
- 10lbs / 22kg

## ME2525

### Benchtop Interferometer

The ME2520 is a field portable interferometer that will allow the user to give a quick, pass/fail analysis with supplied overlay and without the use of a computer or any software.

### Features & Benefits

- 10x Interferometer Lens (20x available upon request)
- 5x , 10x and 20x inspection lenses
- 15" High Resolution LCD Display
- Quickly Inspect Connector Apex and Radius
- Rotation Stage for Checking Undercut
- Blue LED Illumination with Variable Intensity Control

### Ordering Information

| Part # | Description |
|--------|-------------|
| ME2520 | Micro Enterprises ME2520 Portable Interferometer |
| ME2525 | Micro Enterprises ME2525 Benchtop Interferometer |
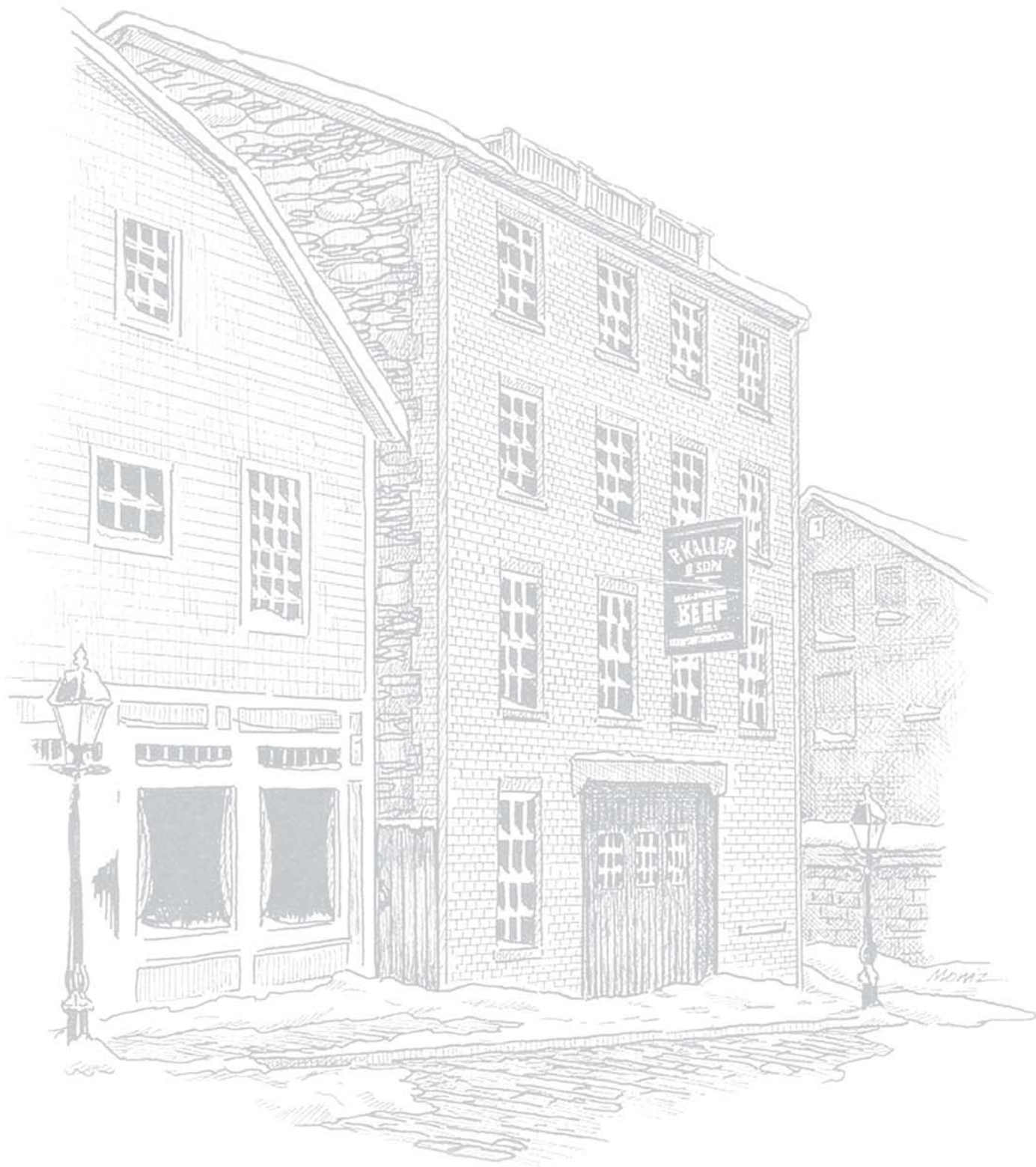
**TEST & INSPECTION**

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# Noyes Inspection Scopes

## OFS300
### Optical Fiber Scope

The OFS 300 is a versatile instrument for the inspection of optical fiber connectors.  By employing universal adapter cap mount, it can inspect virtually any connector style for scratches, dirt, or other problems normally associated with poor transmission performance. The OFS 300 offers 60 hours of continuous battery life.  A 2.5mm universal adapter cap, holster, and user's guide are included with OFS 300 scopes.  The OFS 300-200C uses the same common threaded connector adapter caps as the Noyes Optical Power Meters and Loss Test Sets.

### Features & Benefits

- Rugged handheld design
- 200X
- Universal adapter interface
- Laser safety filter installed

## VS300
### View Safe Inspection Scope

The VS 300 Video Fiber Scope removes concerns for eye safety while Inspecting optical fiber connectors.  The design eliminates the optical path to the eye by utilizing a miniature camera and a state-of-the-art micro-display that achieves unparalleled clarity and resolution.

### Features & Benefits

- Resolves 3/4 micron scratches
- Universal "pan and lock" centering mount
- Battery Life = 10 hrs continuous
- Low Battery indicator
- Video Output

### Ordering Information

| Part Number | Description |
|---|---|
| OFS 300-200C | OFS 300 200X Handheld Optical Fiber Inspection Scope with 2.5 mm universal adapter cap & holster. |
| VS 300 | VS 300 Inspection Scope, 2 x AA batteries, Neck Strap, 2.5mm Universal Adapter Cap and User's Guide |

### OFS 300 Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 2460-10-0002 | OFS 300-200B spare bulb (5 min) | 2460-10-0001 | OFS 300 spare bulb (5 min) |
| 2900-10-0003 | OFS 300-400 zoom lens | 2900-10-0004 | OFS 300 20X eyepiece |
| 1400-01-0025 | OFS 300 Holster | 2900-10-0001 | OFS 300 Tripod carry case |
| 1400-10-0005 | Soft carry case | OFS1-00-0100 | Hard carry case |

### VS 300 Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 1400-01-0055 | Soft Carry Case | VOS3-00-0109 | Hard Carry Case |
| VOS3-00-0104 | Replacement Carry Case | 2900-10-0001 | Tripod Stand (table top) |
| VOS3-00-0107 | Video Cable, VS 300 to VCP 1 | VOS3-00-0108 | Video Cable, VS 300 to RCA Plug |
| 4050-00-0107 | AC adapter 110VAC/ 9VDC | | |

**TEST & INSPECTION**

# Noyes Inspection Scopes

## Adapter Caps
### OPM Ports, OFS 300-200, VS 300 Power Meter and Inspection

Noyes *standard* thread-on adapter caps are used to mate non-angled single-fiber and dual-fiber connectors to optical power meter ports on our OPM, T400, T500, and ORL 3 series test sets, and inspection ports on our OFS 300-200C and VS 300 microscopes.

### Ordering Information

| Part Number | Description | | |
|---|---|---|---|
| 8800-00-0224 | 1.25 mm Universal Adapter Cap | 8800-00-0210 | ESCON Adapter Cap |
| 8800-00-0214 | 2.5 mm Universal Adapter Cap | 8800-00-0211 | DIN 47256 Adapter Cap |
| 8800-00-0200 | FC Adapter Cap | 8800-00-0205 | FDDI (for meters) Adapter Cap |
| 8800-00-0209 | SC Adapter Cap | 8800-00-0201 | D4 Adapter Cap |
| 8800-00-0202 | ST Adapter Cap | 8800-00-0223 | 1000 µm Adapter Cap |
| 8800-00-0221 | E-2000 Adapter Cap | 8800-00-0226 | MU Simplex Adapter Cap |
| 8800-00-0204 | Biconic Adapter Cap | 8800-00-0230 | MT-RJ (A side only) Adapter Cap |
| 8800-00-0203 | SMA Adapter Cap | 8800-00-0231 | MT-RJ (A side or B side) Adapter Cap |
| 8800-00-0225 | Simplex/Duplex Adapter Cap | 8800-00-0232 | Nickel Silver 2.5 mm Adapter Cap |
| 8800-00-0212 | Radial PFO/VFO Adapter Cap | | |

### OFS 300-200 and VS 300 Inspection Only

Noyes thread-on angled and multifiber adapter caps are used to mate angled single-fiber as well as angled or non-angled multifiber connectors to our OFS 300-200C and VS 300 microscopes. Do not use the following adapter caps with our optical power meters or other test sets to measure optical power.

### Ordering Information

| Part Number | Description | | |
|---|---|---|---|
| 8800-00-0215 | FDDI Kit Adapter Cap | 8800-00-0236 | Backplane 1.25 mm Adapter Cap |
| 8800-00-0218 | Angled FC Adapter Cap | 8800-00-0237 | MPX® Adapter Cap |
| 8800-00-0220 | Angled SC Adapter Cap | 8800-00-0238 | Angled MPX® Adapter Cap |
| 8800-00-0229 | Angled E-2000 Adapter Cap | 8800-00-0241 | 0° MT Ferrule Adapter Cap |
| 8800-00-0233 | MTP® 0° Adapter Cap | 8800-00-0242 | 8° MT Ferrule Adapter Cap |
| 8800-00-0234 | MTP® 8° Adapter Cap | 8800-00-0244 | 1.6mm Ferrule (pin) Adapter Cap |
| 8800-00-0235 | SMC 0° Adapter Cap | 8800-00-0248 | 2.0mm Ferrule (pin) Adapter Cap |

TEST & INSPECTION

# Micro Enterprises Inspection Scopes

## ME5000
### Optispec Portable Microscope

The ME5000 Series portable microscope builds upon Optispec® long tradition of top quality inspection equipment specifically designed for the fiber optic industry.  By utilizing either our dovetail or multi-adapter turret interface, the ME5000 enables the user to inspect a variety of connectors for imperfections such as scratches, chips, dirt or moisture on the fiber and ferrule.

With a combination of features that exceed those of other microscopes in its class, the ME5000 provides the operator with complete control over the image including focus, centering and light intensity adjustments.  Using high quality optics, the ME5000 represents the top of the Optispec® line of portable microscopes for inspecting connectors in the field.

### Features & Benefits

- High quality long working distance object lens
- X-Y centering allows inspection of surrounding ferrule
- Inspects a variety of connectors and bare fiber
- Rechargeable battery pack with built in charger
- Ideal for field inspection or light production
- Adjustable light intensity
- Lightweight and versatile ergonomic design
- Built-in laser safety filter

### Ordering Information

| Part Number | Description |
|---|---|
| ME5000 | 200x Handheld Microscope.  Requires an adapter cap. |
| ME5100 | 100x Handheld Microscope with LC Pedestal for Inspecting LC Connectors. |
| ME5200 | 50x Handheld Microscope.  Requires an adapter cap. |
| ME5300 | 100x Handheld Microscope.  Requires an adapter cap. |
| ME5400 | Variable 50 to 100x Handheld Microscope.  Requires an adapter cap. |
| ME5500 | Variable 100 to 200x Handheld Microscope.  Requires an adapter cap. |

### ME5000 Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **Optics** | | | |
| MP44461 | Widefield 10x Eyepiece | MP41001 | LWD 5x Objective 21.0mm W.D. |
| MP44472 | Widefield 15x Eyepiece | MP41002 | LWD 10x Objective 12.30mm W.D. |
| MP44473 | Widefield 20x Eyepiece | MP41003 | LWD 20x Objective 12.20mm W.D. |
| MP44415 | Zoom Eyepiece 10x - 20x | | |
| **Accessories** | | | |
| MP5065 | 120V AC Adapter / Battery Charger | MP5060 | Heavy Duty Table Stand |
| MP5075 | 230V AC Adapter / Battery Charger | MP38006 | Deluxe Carry Case w/ Handle |
| MP5063 | Extra Battery Pack | MP44440 | Multiple Adapter Turret w/ Handle |
| MP5056 | Extra 2.5V Lamp | MP5051 | MT/Mini MT Ferrule Removal Tool |

**TEST & INSPECTION**

# Micro Enterprises Inspection Scopes



## ME9600 & ME9700
### Optispec Portable Microscope

Manufactured by Micro Enterprises Inc., the ME9600 builds upon our long tradition of high quality video inspection equipment specifically designed for the fiber optic industry. This highly portable videoscope includes many features that make it a valuable piece of equipment for the production floor or in the field.

The durable handle adjusts to become a built-in stand and allows the scope to tilt for several ergonomic viewing angles. The internal battery pack and charger provide enough power for the internal microscope, LCD display and even a ME9100 series bulkhead inspection scope. The sturdy, all metal chassis and cost effective design make the ME9600 the perfect tool for fiber inspection inside or outside any production facility.

### Features & Benefits

- Cost Effective
- Durable Aluminum Construction
- Long lasting Co-Axial LED Illumination
- Adjustable handle tilts to become a stand
- High res TFT Display with built-in battery pack
- Dedicated input for using a ME9100 probe scope

### Ordering Information

| Part Number | Description |
|---|---|
| ME9600 | 400x Handheld Video Microscope with 6.4" LCD Screen, 2.5mm and 1.25mm universal adapters |
| ME9700 | 400x Handheld Video Microscope with Capture Capability, 6.4" LCD Screen, 2.5mm and 1.25mm universal adapters |

### ME9600 Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| ME9100 | 400x Video Fiber Inspection Probe | ME9100-C | 400x Color Video Fiber Inspection Probe |
| ME9300 | 200x Video Fiber Inspection Probe | ME9300-C | 200x Color Video Fiber Inspection Probe |
| ME9200 | Portable Battery Pack with USB Output | MP16070 | USB 2.0 Video Grabber |
| MP38025 | Crush-proof, Watertight Carry Case | | |
| MP38026 | Crush-proof, Watertight Carry Case with space for cleaning supplies | | |

**TEST & INSPECTION**

# Micro Enterprises Inspection Scopes
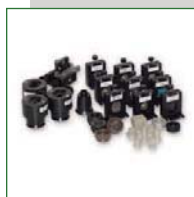
## Adapter Caps
### ME5000 & ME9600 Series

Micro Enterprises Inc. are constantly developing new products for our microscopes and some adapters may not be listed. Please contact us if a specific adapter is not listed below.

- Composite Plastic = wear resistant machined plastic
- Stainless Steel = improved wear resistance, machined steel
- Hardened Steel = best wear resistance, EDM'ed stainless steel

### Ordering Information

| Part # | Description | Part # | Description |
|--------|-------------|--------|-------------|
| **2.5mm Connectors** | | | |
| MP5095 | 2.5mm Univ for SC/FC/ST, stainless steel* | MP5030 | 2.5mm Univ for SC/FC/ST, composite plastic* |
| MP5096 | 2.5mm APC Univ for SC/FC/ST, stainless steel* | MP5031 | 2.5mm APC Univ for SC/FC/ST, composite plastic* |
| MP5091 | E2000, composite plastic | | |
| **1.25mm Connectors** | | | |
| MP5016 | 1.25mm Univ for LC/MU, composite plastic* | MP5097 | 1.25mm APC Univ for LC/MU, composite plastic* |
| MP5028 | Keyed LC, composite plastic* | | |
| **Multi-fiber Connectors** | | | |
| MP5041 | MT-RJ, composite plastic* | MP5103 | MT-RJ APC, composite plastic* |
| MP5050 | MT Ferrule, composite plastic* | MP5067 | MT Ferrule, hardened steel* |
| MP5002 | MT APC Ferrule, composite plastic | MP5071 | MT APC Ferrule, hardened steel* |
| MP5101 | Mini MT, composite plastic* | MP5064 | Mini MT, hardened steel* |
| MP5100 | Mini MT APC, composite plastic* | MP5076 | Mini MT APC, hardened steel* |
| MP5098 | MPX, composite plastic* | MP5099 | MPX APC, composite plastic* |
| MP5018 | MTP/MPO, composite plastic* | MP5043 | MTP/MPO APC, composite plastic* |
| MP5058 | SMC, composite plastic* | MP5087 | MPX Adjustable Dovetail, composite plastic |
| MP5089 | MTP Adjustable Dovetail, composite plastic | MP5093 | MTP APC Adjustable Dovetail, composite plastic |
| MP5017 | MT Ferrule Adjustable Dovetail, composite plastic | | |
| MP5093 | MT Ferrule APC Adjustable Dovetail, composite plastic | | |
| **Other Connectors** | | | |
| MP5078 | Bare Fiber | MP5033 | SMA, composite plastic* |
| MP5029 | D4, composite plastic* | MP5032 | Biconic, alloy metal* |
| MP5038 | 1.6mm Military Female, composite plastic | MP5039 | 1.6mm Military Male, composite plastic |
| MP5034 | 1.6mm Military/Bendix Pin, composite plastic* | | |

* These items require MP5069 Adapter Interface to mount to the scope

**TEST & INSPECTION**

# Westover Inspection Scopes



## FM Series
### Optical Fiber Scope

**The C Series** offers professional quality termination inspection for the most demanding users. The image quality, durability, and ease of use is second to none.

**The DI-Series** is a smaller version of the C-Series with the same optical performance. This microscope offers coaxial illumination for the highest level of image detail and oblique illumination that shows major defects and contaminants to prevent overpolishing.

**The L Series** is strongly preferred by maintenance technicians and installers who are not highly specialized in fiber. The fact that scratches are not as clear as when seen through our "C Series" is viewed as an advantage by many because it prevents over-polishing and wasted time - an excellent tool for less demanding applications.

**The E series** is the economy version of the L-Series scope

## Features & Benefits

- C & DI-Series - Coaxial illumination provides the highest of level of image detail
- L & E Series - Oblique illumination provides excellent view of ferrule cleanliness and core condition
- Rugged all metal design with crisp all-glass optics
- Integrated laser safety filters (datasheet available)
- Internal white LED delivers 100,000 hours of bulb life and greatly extended battery life (30+ hours)

## Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **C-Series - Coaxial Illumination** | | | |
| FM-C100 | 100X w/ Universal Adapter | FM-CX100 | 100X No Adapter |
| FM-C160 | 160X w/ Universal Adapter | FM-CX160 | 160X No Adapter |
| FM-C200 | 200X w/ Universal Adapter | FM-CX200 | 200X No Adapter |
| FM-C99 | 200X & 400X w/ Universal Adapter | FM-CX99 | 200X & 400X No Adapter |
| FM-C320 | 320X w/ Universal Adapter | FM-CX320 | 320X No Adapter |
| FM-C400 | 400X w/ Universal Adapter | FM-CX400 | 400X No Adapter |
| FM-C400L | 400X Long Working Distance w/ Universal Adapter | | |
| **L-Series - Oblique Illumination** | | | |
| FM-L100 | 100X w/ Universal Adapter | FM-LX100 | 100X No Adapter |
| FM-L160 | 160X w/ Universal Adapter | FM-LX160 | 160X No Adapter |
| FM-L200 | 200X w/ Universal Adapter | FM-LX200 | 200X No Adapter |
| **E-Series - Oblique Illumination** | | | |
| FM-E100 | 100X w/ 2.5mm Adapter | FM-E200 | 200X w/ 2.5mm Adapter |
| **DI-Series - Coaxial & Oblique Illumination** | | | |
| FM-DI100 | 100X w/ 2.5mm Adapter | FM-DI200 | 200X w/ 2.5mm Adapter |

TEST & INSPECTION

# Westover Inspection Scopes

## FMV Series
### Video Fiber Scope

The FMV Video Viewer provides an ergonomic and laser-safe method of viewing fibers even if you don't know if they are live. The system incorporates a built-in video microscope within the same housing as a 3.5" TFT LCD. A thumb wheel focus provides one handed operation. The patch cord scope itself accepts FMAE-Series adapters, but is configurable to accept FMA-Series adapters through the use of a coupler.

The FMV offers the terrific advantage of removing the user eye from any direct path associated with traditional optical microscopes.

The system also includes an input for our FBE probe microscopes and an A/B switch to change between video signals. This will allow the user to inspect both male connectors and bulkhead adapters (female) without having to change tips or adapters.

### Ordering Information

| Part Number | Description |
|---|---|
| FMV-200 | 200x Handheld Video Microscope with 3.5" LCD Screen |
| FMV-200-V | 200x Handheld Video Microscope with 3.5" LCD Screen and Built-In Visual Fault Locator |
| FMV-400 | 400x Handheld Video Microscope with 3.5" LCD Screen |
| FMV-400-V | 400x Handheld Video Microscope with 3.5" LCD Screen and Built-In Visual Fault Locator |

*All units require an FMA Series adapter cap sold separately*

**TEST & INSPECTION**

# Westover Inspection Scopes

## Adapter Caps
### FMA & FMAE Series

- FMA Series - for the C-Series, L-Series and Video Fiber Scopes
- FMAE Series - for the DI-Series and E-Series Fiber Scopes

### FMA Series Adapter Caps

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **Single Fiber Connectors** | | | |
| FMA-U25 | 2.5mm Universal | FMA-U25-P | 2.5mm Universal (Pro Version) |
| FMA-UAPC | 2.5mm Universal, APC | FMA-UAPC-P | 2.5mm Universal, APC (Pro Version) |
| FMA-U12 | 1.25mm Universal | FMA-U12-P | 1.25mm Universal (Pro Version) |
| FMA-UA12-P | 1.25mm Universal, APC (Pro Version) | FMA-U381 | 3.81mm Universal |
| FMA-BIC | Biconic | FMA-COD | Corning OptiTap |
| FMA-D4 | D4 | FMA-E2A | E2000, for PC & APC |
| FMA-FCPC | FC | FMA-FC-APC | FC-APC |
| FMA-LC | LC | FMA-LC-APC | LC-APC |
| FMA-LC-2X | LC Duplex | FMA-MU | MU |
| FMA-SC | SC | FMA-SC-APC | SC-APC |
| FMA-SMA | SMA | FMA-ST | ST |
| FMA-BF1 | Bare Fiber (125um Fiber) | FMA-LEMO1 | LEMO F2 Termini |
| FMA-MIL1 | Mil 29504/14/15 Termini | FMA-MIL2 | Mil 29504/4/5 Termini |
| **Multi-fiber Connectors** | | | |
| FMA-MTRJ-1 | MTRJ, Simple Type | FMA-MTRJ-2 | MTRJ,  X-Y Axis Pan/Scroll |
| FMA-MT | MT, X-Y Axis Pan/Scroll | FMA-MTA | MT-APC, X-Y Axis Pan/Scroll |
| FMA-MTP | MTP, X-Y Axis Pan/Scroll | FMA-MTPA | MTP-APC, X-Y Axis Pan/Scroll |
| FMA-MPX | MPX, X-Y Axis Pan/Scroll | FMA-MPXA | MPX-APX, X-Y Axis Pan/Scroll |
| FMA-MMT-2 | Mini-MT Ferrule, X-Y Axis Pan/Scroll | | |

### FMAE Series Adapter Caps

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| FMAE-CA1 | Converts FMA to FMAE | FMAE-CA2 | Converts FMA to FMAE, Centerable |
| FMAE-U12 | Universal 1.25mm | FMAE-U25 | Universal 2.5mm |
| FMAE-UAPC | Universal 2.5mm, APC | FMAE-U25-SF | Universal 2.5mm, Slip Fit |
| FMAE--SC | SC | FMAE-SC-DUX | SC Duplex |
| FMAE-LC | LC | FMAE-LC-2X | LC Duplex |
| FMAE-FC | FC | FMAE-E2A | E2000 |
| FMAE-MTRJ-3 | MTRJ for 100x Only | FMAE-MTRJ-4 | MTRJ for 200x Only |
| FMAE-MTP | MTP | FMAE-MTPA | MTP/APC |

**TEST & INSPECTION**

# TrueView Inspection Scopes

## 9025 Series
### Optical Fiber Scope

**The Most Versatile and Affordable Fiber Inspection Scope on the Market**

The 12-9025 100x fiber inspection microscope from TrueView Products features a low cost design perfect for inspecting patch cords and non-active fiber links for contamination that can increase loss in fiber based networks. The flat view adapter allows the user to view both the core and cladding as separate distinct layers and the angle view adapter does the same for angled connectors. This microscope features easily swappable adapter heads to accommodate several popular connector styles.

### Ordering Information

| Part Number | Included Adapter | Part Number | Included Adapter |
|---|---|---|---|
| 12-9025 | 2.5mm | 12AP9025 | 2.5mm APC |
| PK898 | 2.5mm & PSF22 Continuity Tester | PK898A | 2.5mm APC & PSF22 Continuity Tester |
| PK12-9025 | 2.5mm & 2.5mm APC | 12B9025 | Bare Fiber |
| 15LCS-9025 | LC | 15LCA-9025 | LC APC |
| 15LCD-9025 | LC Duplex | | |
| 14MU-9025 | MU | 14MUA-9025 | MU APC |
| 16VPL-9025 | VF-45 | 16VPUA9025 | VF-45 APC |
| 14MJ-9025 | MT-RJ | 14MJA-9025 | MT-RJ APC |
| 14MT-9025 | MT | 14MTP-9025 | MTP |

### Adapter Caps

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 12FA | 2.5mm Adapter | 1222AA | 2.5mm APC Adapter |
| 9025-D4 | D4 Adapter | TK9025 | ST/SC/FC Knurl Adapter |
| 9025-SMA | SMA Adapter | B9025BF | Bare Fiber Adapter |
| 15LCS | LC  Adapter | 15LCA | LC APC Adapter |
| 15LCD | LC Duplex Adapter | 9025-BIC | Biconic Adapter |
| 14MU | MU Adapter | 14MUA | MU APC Adapter |
| 16VPL | VF-45 Adapter | 16VPUA | VF-45 APC Adapter |
| 14MJ | MT-RJ Adapter | 14MJA | MT-RJ APC Adapter |
| 14MT | MT Adapter | 14MTP | MTP Adapter |
| KB22 | Krypton Replacement Bulb | | |

**TEST & INSPECTION**

Specifications may change without notice

# Westover Probe Scopes

## FBP Professional Series

Westover's FBP Series probe microscopes revolutionized the industry by providing a compact design that fits in the palm of your hand, rugged drop-tested performance and precision tips that positively mate with the interface device so the fiber is easy to locate and examine. Competitive designs utilize poorly-conceived inspection tips and require extensive user training before they can be used in service. A complete inspection system requires a probe (video microscope), a tip suitable for the connector you are inspecting, and a display. Over the years our product line has grown to offer many choices for probes, displays and tips.

The FBP Series is the industry standard and occupies a massive market share due to its proven overall performance. Westover's most common model features dual magnification with a quick-change magnification wheel, which requires only a touch of refocus when changing the magnification setting. Value-priced single-magnification models are also available.

FBP probes are available in either 4-pin or 6-pin versions. The 6-pin models include a Quick-Capture™ button that, when used in conjunction with a 6-pin USB module, allows for single-handed operation with a PC.

## FBP-P5000

### Digital Probe Scope with FiberChek2 Image Analysis Software

A digital version of the FBP scope, this unit captures and delivers an image to a computer through its USB 2.0 interface. The FiberCheck2 software then does a quick pass/fail analysis, removing operator subjectivity. This whole process happens in less than a second.

## FBP-HD1

### 3.5" TFT LCD Hand Held Display

- Removable Li-ion battery w/ 3 hours run time
- Built-in power management system
- Adjustable auto-shutoff feature

- Fuel gauge showing remaining battery life
- Built-in charger that you can use while you charge
- Built-in hanging accessory for hands free operation

## FBP-HD2

### 3.5" TFT LCD Hand Held Display

The HD2 display provide an economic alternative to the HD1 while also offering a series of optional features that increase the functionality and versatility of the handheld display. HD2 features include:

- Removable 8 x AA battery cartridge
- 6 hours run time
- Power-saving GripSwitch™ feature

- Built-in table stand
- Integrated Patchcord Viewer Module (Optional)
- Integrated Visual Fault Locator (Optional)

## FBP-HD3

### 1.8" TFT LCD Hand Held Display

The HD3 product line provides ultimate portability in field applications with a compact design that fits in the palm of your hand. Features include:

- Built-in NiMH battery w/ 3 hours run time
- Power-saving GripSwitch™ feature

- Low battery warning LED
- Integrated Patchcord Viewer Module (Optional)

# Westover Probe Scopes

## FBP Professional Series Probe Kits

**FBP-S Series** kits are by far the most common worldwide for video-based field fiber inspection. These kits use the industry-leading FBP Series probes, HD1 displays, and precision FBPT tips to deliver professional grade performance. In addition, there are also kits which pair FBP Series probes with the USB module. There are many kits to choose from. If you do not see the configuration you are looking for, please check the system configuration matrix or consider purchasing the system as component parts.

**FBP-SE Series** kits are termed "hybrid kits" and pair our industry leading FBP probe with a variety of different handheld display options. Some of these configurations are hardwired directly to an HD2 or HD3 display. Others include a connectorized probe, allowing users to chose from a wider variety of display options.

### Ordering Information

| Mag. | Probe Only | HD1 Kit | HD2 Kit | HD3 Kit | HD3 Kit w/ Patchcord Viewer |
|------|-----------|---------|---------|---------|------------------------------|
| 200x | FBP-P1 | FBP-S001 | FBP-SE01 | FBP-SM01 | -- |
| 400x | FBP-P1-400 | FBP-S002 | FBP-SE02 | FBP-SM02 | -- |
| 200/400x | FBP-P5 | FBP-S003 | FBP-SE03 | FBP-SM03* | FBP-SM05* |

*The above kits come with SC, LC, U25 & U12 Tips*
*\*These kits are available with cleaning supplies. Include a '-C' at the end of the part number. i.e. FBP-SM03-C*
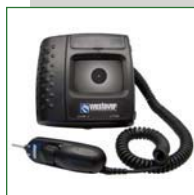
## FBE Access Series Probe Kits

**FBE-S Series** kits are designed for the field installer who primarily encounters the more common applications in today's fiber optic networks. These kits include an FBE Series probe hardwired to a hand-held video display (either HD2 or HD3). Note: FBE Series probes utilize their own inspection tips (FBET), which will support the more common connector configurations in fiber networks. While the selection tips for the FBE series is more limited than our FBP series, the performance of our FBE line still greatly exceeds that of other low-cost probe microscopes on the market. In developing this line, we have given the cost-focused user a truly fieldable, high-performance product

### Ordering Information

| Mag. | HD2 Kit | HD3 Kit | HD3 Kit w/ Patchcord Viewer |
|------|---------|---------|------------------------------|
| 200x | FBE-S01 | FBE-SM1* | -- |
| 400x | FBE-S02 | FBE-SM2* | FBP-SM5* |

*The above kits come with SC, LC, U25 & U12 Tips*
*\*These kits are available with cleaning supplies. Include a '-C' at the end of the part number. i.e. FBE-SM1-C*

### FBE Series Probe Tips

| Part Number | Description | Part Number | Description |
|-------------|-------------|-------------|-------------|
| FBET-FC | FC Bulkhead | FBET-U12 | 1.25mm Bulkhead |
| FBET-LC | LC Bulkhead | FBET-U12M | 1.25mm Patch Cord |
| FBET-SC | SC Bulkhead | FBET-U25M | 2.5mm Patch Cord |
| FBET-ST | ST Bulkhead | FBET-U25MA | 2.5mm Patch Cord, APC |
| FBET-UFMAE | Universal Flare Adapter, Connects FMAE Adapters to FBE for Patch Cords | | |

**TEST & INSPECTION**

# Westover Probe Scopes

## FBP-HD2 & HD3 Display Options

Optional modules in the HD2 & HD3 lines are designed to deliver more utility at highly competitive prices including an integrated patch cord viewer and/or a Visual Fault Locator.

The integrated "patch cord viewer" module allows the user to inspect the fiber patch cord (i.e., male connector) directly on the display while still providing a means for bulkhead (i.e., female connector) inspection with an attached probe microscope. The user can simply toggle between viewing the patch cord and bulkhead, which allows inspection of both ends of a connection without having to change tips on the probe. This saves considerable time and cuts down on lost tips and adapters. The patch cord scope accepts our FMAE Series adapters, but is configurable to accept FMA Series adapters with the use of a coupler.

The integrated visual fault locator (VFL), only available in the FBP-HD2 line, allows user to troubleshoot newly spliced or terminated assemblies for breaks or excessive bends in a fiber cable. Purchasing an HD2 with an integrated VFL can save you up to 50% of the price of a stand-alone VFL.

### Ordering Information

| Version | No Patch Cord Viewer | 200x Patch Cord Viewer | 400x Patch Cord Viewer |
|---------|---------------------|------------------------|------------------------|
| HD2 w/ VFL | FBP-HD2-V | FBP-HD2-P2-V | FBP-HD2-P4-V |
| HD2 | FBP-HD2 | FBP-HD2-P2 | FBP-HD2-P4 |
| HD3 | FBP-HD3 | FBP-HD3-P2 | FBP-HD3-P4 |

## FBP3 Long Reach Series

As system capacities have increased, optical connectors have proliferated in backplane applications. Increasingly, those connectors are ribbon ferrule based. The FBP3 Series is purpose-built for reaching between adjacent cards/modules to reach optical connectors in the backplane. Westover's patented RibbonDrive™ technology is available for many multi-fiber connector configurations and provides the industry's only practical solution for backplane ribbon inspection. Our standard FBPT Series tips can also be used with the FBP3 probe for simplex backplane applications.

### Ordering Information

| Part Number | Description |
|-------------|-------------|
| FBP3-P3L | P3 Handle & Long Barrel, NTSC, No Ribbon Drive |
| FBP3-P3RL | P3 Handle & Long Barrel, NTSC, w/ Ribbon Drive |

### FBP3 Probe Tips with Ribbon Drive

| Part Number | Description | Part Number | Description |
|-------------|-------------|-------------|-------------|
| FBP3-MTP | MTP Bulkhead | FBP3-MTPA | MTP-APC Bulkhead |
| FBP3-MTP-DC | MTP Daughtercard | FBP3-MTPA-DC | MTP-APC Daughtercard |
| FBP3-MPXA-MB | MPX-APC Motherboard | FBP3-MTPA-MB | MTP-APC Motherboard |
| FBP3-MPX | MPX Bulkhead | FBP3-MPXA | MPX-APC Bulkhead |
| FBP3-HBMT-DC | HBMT Daughtercard | FBP3-HBMTA-DC | HBMT-APC Daughtercard |
| FBP3-HBMT-MB | HBMT Motherboard | FBP3-HBMTA-MB | HBMT-APC Motherboard |
| FBP3-MT-MB2-JSF | MT Motherboard (JSF), 2 Position | FBP3-MT-MB6-JSF | MT Motherboard (JSF), 6 Position |
| FBP3-MT-MB6 | MT Motherboard, 6 Position | FBP3-UA | Single Tip Adapter (no ribbon drive) |

TEST & INSPECTION

# Westover Probe Scopes

## Adapter Caps
### FBP Series

### Ordering Information

| Part # | Description | Part # | Description |
|--------|-------------|--------|-------------|
| **1.25mm Universal Tips** | | | |
| FBPT-U12-A6 | Universal 1.25mm Bulkhead, Angled 60 Degrees | FBPT-U12-PP | Universal 1.25mm Ferrules in Polishing Plates |
| FBPT-U12M | Universal 1.25mm Patch Cord | FBPT-U12M-90 | Universal 1.25mm Patch Cord, Angled 90 Degrees |
| **2.5mm Universal Tips** | | | |
| FBPT-U25MA | Universal 2.5mm, APC Polish | FBPT-U25MA-SF | Universal 2.5mm, APC Polish, Slip Fit |
| FBPT-U25M | Universal 2.5mm Patch Cord | FBPT-U25M-90 | Universal 2.5mm Patch Cord, Angled 90 Degrees |
| FBPT-U25M-SF | Universal 2.5mm Patch Cord, Slip Fit | FBPT-U25PL | Universal 2.5mm Patch Cord, Plastic Inner Ring |
| **Single Fiber Connectors** | | | |
| FBPT-D4 | D4 Bulkhead | FBPT-LX5A | LX5 & F3000 Bulkhead |
| FBPT-E2000 | E200 Bulkhead, APC or PC Polish | FBPT-E2A-A6 | E2000 Bulkhead, Angled 60 Degrees, PC/APC |
| FBPT-FC | FC Bulkhead | FBPT-FC-A6 | FC Bulkhead, Angled 60 Degrees |
| FBPT-FC-P | FC Bulkhead, Pro Version | FBPT-FC-APC | FC-APC Bulkhead |
| FBPT-FCA-1 | FC-APC Bulkhead, No Collar | FBPT-FCAPC-L | FC-APC Bulkhead, Long Reach |
| FBPT-LC | LC Bulkhead | FBPT-LC-A6S | LC Bulkhead, Square, Angled 60 Degrees |
| FBPT-LC-L | LC Bulkhead, Long Reach | FBPT-LC-XL | LC Bulkhead, Extra Long Reach |
| FBPT-LC-DC | LC Daughtercard | FBPT-LC-APC | LC-APC Bulkhead |
| FBPT-MU | MU Bulkhead | FBPT-MU-DC | MU Daughtercard |
| FBPT-MU-L | MU Bulkhead, Long Reach | FBPT-MU-XL | MU Bulkhead, Extended Reach |
| FBPT-SC | SC Bulkhead | FBPT-SC-A6 | SC Bulkhead, Angled 60 Degrees |
| FBPT-SC-L | SC Bulkhead, Long Reach | FBPT-SC-TS | SC Bulkhead, Tx/ Rx Lens Assembly Inspection |
| FBPT-SC-DC | SC Daughtercard | FBPT-SC2 | SC2 Bulkhead |
| FBPT-SC-APC | SC-APC Bulkhead | FBPT-SCA-A6 | SC-APC Bulkhead, Angled 60 Degrees |
| FBPT-SCA-DC | SC-APC Daughtercard | FBPT-SCFC-A6 | SC/FC Bulkhead, Angled 60 Degrees |
| FBPT-SMA | SMA Bulkhead | FBPT-SMA-PP | SMA Ferrule in Polishing Plates |
| FBPT-ST | ST Bulkhead | FBPT-ST-A6 | ST Bulkhead, Angled 60 Degrees |
| FBPT-ST-L | ST Bulkhead, Long Reach | FBPT-BIC | Biconic Bulkhead |
| **Multi-Fiber Connectors** | | | |
| FBPT-MPX | MPX Bulkhead, X-Axis Pan Knob | FBPT-MPX-MB | MPX Motherboard, X-Axis Pan Knob |
| FBPT-MPXA | MPX-APC Bulkhead, X-Axis Pan Knob | FBPT-MPXA-DC | MPX-APC Daughtercard, X-Axis Pan Knob |
| FBPT-MPXA-MB | MPX-APC Motherboard, X-Axis Pan Knob | FBPT-MTRJ-1 | MTRJ Bulkhead, Simple Type |
| FBPT-MT-DC | MT Daughtercard, X-Axis Pan Knob | FBPT-MTA-DC | MT-APC Daughtercard, X-Axis Pan Knob |
| FBPT-MTP | MTP Bulkhead, X-Axis Pan Knob | FBPT-MTP-A6 | MTP Bulkhead, X-Axis Pan Knob, Angled 60 Degrees |
| FBPT-MTP-DC | MTP Daughtercard, X-Axis Pan Knob | FBPT-MTP-MB | MTP Motherboard, X-Axis Pan Knob |
| FBPT-MTPA | MTP-APC Bulkhead, X-Axis Pan Knob | FBPT-MTPA-DC | MTP-APC Daughtercard, X-Axis Pan Knob |
| FBPT-MTPA-MB | MTP-APC Motherboard, X-Axis Pan Knob | FBPT-MTPA-L | MTP-APC Bulkhead, Extended Reach |
| **Military & Broadcast Connectors** | | | |
| FBPT-MIL-1P | Mil 20504/14/15 Pins | FBPT-MIL-1S | Mil 20504/14/15 Sockets |
| FBPT-MIL-2P | Mil 20504/4/5 Pins | FBPT-MIL-2S | Mil 20504/4/5 Sockets |
| FBPT-MIL2-A6 | Mil 29504/4/5, Angled 60 Degrees | FBPT-MIL-2P-X | Mil 20504/4/5 Pins, Modified to 0.064" Bore |
| FBPT-MIL-3S | Mil Type 3 Sockets | FBPT-MIL-EHP | Hull Penetrator Sockets |
| FBPT-MIL-2CPA | Test Probe Adapter for M38999 | FBPT-38999-G006 | Guide, 38999 Plug, Size 13, Sockets, w/Size 16 Contacts |
| FBPT-38999-G007 | Guide, 38999 Receptacle, Size 13,Pins, w/Size 16 Contacts | FBPT-38999-G008 | Guide, 38999 Receptacle, Size 13, Sockets, w/Size 16 Contacts |
| FBPT-LEMO1-P | LEMO F2 Pins | FBPT-LEMO1-S | LEMO F2 Sockets |
| FBPT-TFOCA1 | TFOCA1 | FBPT-TFOCA2 | TFOCA2 |
| FBPT-COD | OptiTap Multiport, Economy | FBPT-COD-L | OptiTap Multiport |
| FBPT-COD-MT | CON2R, OptiTip Ribbon | FBPT-COD-MTOA | CON2R, OptiTap Ribbon, Optical |
| FBPT-COD-MTPG | CON2R, OptiTap, Plug | FBPT-COD-MTRG | CON2R, OptiTap, Receptacle |
| **Conversion Adapter** | | | |
| FBPT-UFMA | Universal Flare Adapter, Connects FMA Adapters to FBP | | |

Specifications may change without notice

TEST & INSPECTION

# Micro Enterprises Probe Scopes

## ME9100/9300
### Optispec Portable Probe Scope

Manufactured by Micro Enterprises Inc., the ME9100 Series Video Microscopes are designed for inspecting fiber optic connectors through bulkheads. These instruments are equipped with a specially designed, extra long working distance objective that allows the operator to inspect the end face of a fiber optic connector while mounted inside a system.

**Function in Design**
Two magnifications are available to inspect backplane connectors in different types of systems. The ME9100 and ME9300 scopes have a straight optical path with an optional 90 degree tip to inspect "hard to reach" behind the wall connectors.

**Image Centering**
All models are equipped with centering mechanisms allowing the operator to center the core of the fiber on the display or inspect the surrounding ferrule for contaminates and defects.

**LED Illumination**
All models utilize near ultraviolet LED illumination to increase resolution of fine scratches. Providing over 100,000 hours of light, the LED will rarely need replacing or adjustment. A side mounted knob provides light intensity control.

**Quick Change Adapters**
A variety of adapters are available for inspecting jumpers, front plane, and back plane connectors. All models may be equipped to inspect universal 2.5mm connectors, small form factor connectors such as LCs and MUs, and even multiple fiber connectors including MTRJ, MTP, and MT ferrules.

## Features & Benefits

- Available with a variety of adapters for inspecting fiber optic connectors through bulkheads
- Available with high or low magnification providing up to 650x video magnification
- High resolution monochromatic CCD Camera
- Adjustable Optispec˙ Blue LED illumination

### Ordering Information

| Part Number | Description |
|---|---|
| ME9300 | 200x Video Fiber Inspection Probe  (Requires adapter tip and monitor/hand held display) |
| ME9100 | 400x Video Fiber Inspection Probe  (Requires adapter tip and monitor/hand held display) |

### Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| ME9500 | 6.4" Portable Video Display | MP9200 | Battery Pack w/ USB & Analog Output |
| MP38025 | Crush-proof, Watertight Carry Case | ME9150 | Heavy-Duty Table Top Stand |
| MP19117 | 12" High Res. B&W Video Monitor | MP19110 | 9" High Res. B&W Video Monitor |

# Micro Enterprises Probe Scopes

## Adapter Tips
### ME9100 & ME9300 Series

### Bulkhead Tips

| Part # | Description | Part # | Description |
|---|---|---|---|
| **2.5mm Connectors** | | | |
| MP9142 | FC Bulkhead | MP9142-R | FC Bulkhead - 90 Degree |
| MP9178 | FC/APC Bulkhead | MP9179 | SC/APC Bulkhead |
| MP9145 | SC Bulkhead | MP9145-R | SC Bulkhead - 90 Degree |
| MP9125 | ST Bulkhead | MP9125-R | ST Bulkhead - 90 Degree |
| **1.25mm Small Form Factor Connectors** | | | |
| MP9151 | MU Bulkhead | MP9151-R | MU Bulkhead - 90 Degree |
| MP9143 | LC Bulkhead | MP9143-R | LC Bulkhead - 90 Degree |
| MP9180 | LC/APC Bulkhead | | |
| **Multiple Fiber Connectors** | | | |
| MP9181 | SMC Bulkhead | MP9191 | SMC Bulkhead - 90 Degree* |
| MP9115 | MTRJ Bulkhead | MP9115-R | MTRJ Bulkhead - 90 Degree |
| MP9150 | MP Bulkhead Adjustable | MP9184 | MPX Adjustable Bulkhead |
| MP9137 | MTP Adjustable Bulkhead | MP9194 | MTP Bulkhead - 90 Degree* |
| MP9185 | MTP/APC Adjustable Bulkhead | | |
| **Other Connectors** | | | |
| MP9189 | E2000 Bulkhead | MP9188 | E2000/APC Bulkhead |

* Requires the MP9190 90-degree adapter with adjustable lever

### Patch Cord Tips

| Part # | Description | Part # | Description |
|---|---|---|---|
| **2.5mm Connectors** | | | |
| MP9138 | 2.5mm Univ for SC/FC/ST for Patch Cords | MP9140 | 2.5mm APC Univ for SC/FC/ST for Patch Cords |
| **1.25mm Small Form Factor Connectors** | | | |
| MP9139 | 1.25mm Univ for LC/MU for Patch Cords | MP9141 | 1.25mm APC Univ for LC/MU for Patch Cords |
| **Multiple Fiber Connectors** | | | |
| MP9127 | MT Ferrule Adjustable Adapter for Patch Cords | MP9152 | MTRJ Adapter for Patch Cords |
| MP9110 | MTP Adjustable Adapter for Patch Cords | MP9146 | MTP/APC Adjustable Adapter for Patch Cords |

**TEST & INSPECTION**

# Noyes Probe Scopes

## VFS 2
### Video Fiber Scopes

The VFS 2 is a small versatile video fiber scope, which retains the superior image quality associated with Noyes inspection products. The unique "optical-knuckle" allows the user to orient the probe head in virtually any direction. This feature allows the user to view connectors that may be located in tight or difficult locations. With a probe head length of less than 8 cm (3.25"), access into crowded/cramped quarters becomes a reality.

The VFS 2 resolves ¾ micron scratches, keeping with our standard of quality end-face images. This unit is designed for one-handed operation and with the "optical-knuckle" feature, the unit is equally easy for both right and left handed individuals.

The VFS 2 probe may be paired with the VFS 2 high-resolution 3.5" Display unit.

Also, the VFS 2 Inspection Probe may be used with the VCP 1 Video Capture Port, which allows the user to inspect fi ber optic end-faces and capture viewed images on a PC.

### Features & Benefits

- Unparalleled access to connectors & bulkheads
- One-handed operation
- Resolves ¾ micron scratches
- Precision adapter tips for easy centering
- 350-micron fi eld of view (diagonal)
- Advanced lithium ion battery
- Smooth, precision focusing (left or right handed)

### Ordering Information

| Part Number | Description |
|---|---|
| VFS2-00-0900 | Probe, 3.5" Display Unit, 2.5mm Universal Adapter Tip, AC Adapter, One Internal Lithium-Ion Battery, User's Guide, and Carry Case |
| VFS2-00-0903 | Probe, USB Interface Unit (VCP 1) with Image Capturing Software, User's Guide, and Carry Case. Adapter tips are required and sold separately. |

### Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 4050-00-0118PR | AC Adapter | 3900-05-0002PE | VFS 2 Li-Ion battery pack |
| VFS2-00-0001 | VFS 2 probe only | VFD2-00-0001 | VFS 2 Display only |
| VFS2-02-0108 | Converter: VFS 2 to VS 300 adapter caps | VCP1-00-0900 | Video Capture Port-USB Interface & Software |
| VOS3-00-0108 | External Monitor Cable, VFS2 Display to RCA Jack | | |

### Adapter Tips

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| VFS2-02-0100 | FC | VFS2-02-0110 | FC/APC |
| VFS2-02-0101 | SC | VFS2-02-0111 | SC/APC |
| VFS2-02-0113 | SC II | VFS2-02-0102 | ST |
| VFS2-02-0117 | MU | VFS2-02-0112 | LC |
| VFS2-02-0115 | E 2000 | VFS2-02-0114 | D4 |
| VFS2-02-0118 | Biconic | | |
| VFS2-02-0105 | 2.0mm Universal for male Mil C 28876 | VFS2-02-0106 | 2.0mm Universal for Female Mil C 28876 |
| VFS2-02-0108 | 1.6mm Universal for male Mil C 38999 | VFS2-02-0109 | 1.6mm Socket for Female Mil C 38999 |
| VFS2-02-0103 | 2.5mm Universal (for patch cords) | VFS2-02-0104 | 1.25mm Universal (for patch cords) |

# Noyes Single Mode & Multimode Optical Loss Test Sets

To accommodate your fiber optic loss testing needs, Noyes offers a variety of multimode (MLP) test kits, single-mode (SLP) test kits, single-mode/multimode (SMLP) and Contractor Series (CK) test kits. These kits are ideal solutions for testing and certifying a range of networks such as LANs, WANs, IXC, CATV and Telecom. Kits come complete with an adapter cap, software, download cable and instructions.

### Test Set Options:

**Wave ID** - Light source transmits a wave ID that the power meter reads to automatically select and measure the appropriate wavelength. Systems without the feature require the operator to manually set the power meter to the correct wavelength.

**Set Reference** - Power meter can set a reference to the light source's output power, allowing it to display optical loss in dB. Test sets without this feature require the operator to record the power level in dBm before and after the insertion of the cable under test. The first number is then subtracted from the second to calculate the loss in dB.

**Data Storage** - Power meter can store measurements which can be transfered to a PC using a USB connection and supplied Windows compatible software for further analysis, printing and storage.

## C880

### Bi-Direction, Dual-Wavelength Testing Capabilities

Combining two C840 Certification Testers, the Noyes C880 QUAD Certification Test Kit from AFL Telecommunications is designed for testing and troubleshooting both multimode and single-mode fiber links. Each tester includes an integrated Visual Fault Locator (VFL, 650 nm), both single-mode (Laser 1310/1550 nm) and multimode (LED 850/1300 nm) Optical Light Sources (OLS), and an Optical Power Meter (OPM). Each tester may be used alone as a traditional power meter, light source or visual fault locator.

In Auto Test mode, the user may perform certification tests to one of the industry cabling standards (TIA, ISO, EN), one or more application standards, or a user-defined loss/length limit. Certification reports may be generated based on the selected standards and rules using PC reporting software.

The transflective touch screen display of the C840 tester is suitable for both indoor and outdoor operation.

Thousands of test results may be stored internally for transfer to a computer via a USB cable or a standard USB drive. Once test data is transferred to a computer, the supplied Windows® compatible software allows technicians to view, print, and generate professional certification reports.

## SMLP 5-5

### Wave ID, Set Reference and Data Storage

The SMLP5-5 test kit combines the OPM5-2D optical power meter and OLS4 integrated LED and LASER light source and is ideally suited for testing fiber optic networks with hybrid (single-mode and multimode) cables.

## SMLP 4-4

### Wave ID and Set Reference

The SMLP4-4 test kit combines the OPM4-2D optical power meter and OLS4 integrated LED and LASER light source and is ideally suited for testing fiber optic networks with hybrid (single-mode and multimode) cables.

## CKSM-2

### Set Reference Contractor Series

The CKSM-2 combines the CSM1-2 optical power meter, CSS1-MM Dual LED light source, and CSS1-SM Dual LASER source for a cost-effective test kit designed for performing insertion loss measurements on multimode as well as single-mode fiber optic links.

The Contractor Series test sets are rugged, light weight units developed to be an economical option for installers who need a good general purpose, field usable system.

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# Noyes Single Mode Optical Loss Test Sets

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## OLTS 5

### Bi-Direction, Dual-Wavelength Testing Capabilities

The OLTS 5 may be operated in automatic or manual test modes. In its "two-unit" automatic test mode, a pair of OLTS 5 test sets may be used to measure the end-to-end, bi-directional insertion loss of a pair of single-mode fibers at 1310/1550nm or 1550/1625 nm. Tests are started and controlled by the user from the OLTS 5 configured as the Main unit. Test progress messages and results are displayed on the Remote unit. Full test results can be reviewed and saved in the Main unit. Thresholds may be set to provide Pass/Fail results.

In its "single-unit" automatic test mode the OLTS 5 can measure bi-directional, dual-wavelength insertion loss of patch cords, or fiber optic cables while they are still on the reel.

In the manual operating mode individual OLTS 5 test sets can operate either as an optical power meter (OPM) or dual-wavelength laser source.

The OLTS 5 can store dual-wavelength, bi-directional insertion loss results for up to 1,000 fibers. Test results can be organized in up to 20 user-named files. Results are transferred to a PC via a serial link. Windows® software is provided to view, edit, and print test results.

OLTS 5 units are sold individually but normally used in pairs.

## SLP 5 Series

### Wave ID, Set Reference and Data Storage

The **SLP5-6D** test kit combines the OPM5-4D optical power meter and OLS2-Dual LASER light source and is ideally suited for testing single-mode fiber optic networks.

The SLP5 triple wavelength single-mode test kits are available in two models, **SLP5-FTTH** and **SLP5-7**. The SLP5-FTTH and SLP5-7 model combine the OPM5-4D optical power meter and either OLS7-FTTH (1310/1490/1550 nm) or OLS7-3 (1310/1550/1625 nm) LASER source respectively.

## SLP 4 Series

### Wave ID and Set Reference

The **SLP4-6D** test kit combines the OPM4-4D optical power meter and OLS2-Dual LASER light source and is ideally suited for testing single-mode fiber optic networks.

The SLP4 triple wavelength single-mode test kits are available in two models, **SLP4-FTTH** and **SLP4-7**. The SLP4-FTTH and SLP4-7 model combine the OPM4-4D optical power meter and either OLS7-FTTH (1310/1490/1550 nm) or OLS7-3 (1310/1550/1625 nm) LASER source respectively.

# Noyes Multimode Optical Loss Test Sets

## MLP 5-2
### Wave ID, Set Reference and Data Storage

The MLP5-2 test kit combines the OPM5-2D optical power meter and OLS1-Dual LED light source and is ideally suited for testing multimode fiber optic networks.

## MLP 4-2
### Wave ID and Set Reference

The MLP4-2 test kit combines the OPM4-2D optical power meter and OLS1-Dual LED light source and is ideally suited for testing multimode fiber optic networks.

## CKM-2
### Set Reference Contractor Series

The CKM-2 combines the CSM1-2 optical power meter and CSS1-MM Dual LED light source for a cost-effective test kit designed for performing insertion loss measurements on multimode fiber optic links. The Contractor Series test sets are rugged, light weight units developed to be an economical option for installers who need a good general purpose, field usable system.

## MLP 1
### Basic Test Kit

The MLP1 test kits are inexpensive solutions for testing multimode and single-mode systems. By joining the OPM1 optical power meter and the OLS1 optical light source, the MLP1 is a great kit for beginners or network owners. Two versions of the MLP1 test kit are available for testing Premises networks, LAN, and Gigabit Ethernet. The MLP1-1S test kit includes the OPM1-2C power meter and OLS1-1C light source. The MLP1-2 test kit combines the OPM1-2C optical power meter and OLS1-2C optical light source.

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# Noyes Optical Loss Test Sets

All test kits include an optical power meter, optical light source, adapter cap, protective rubber boots, user's guide and carry case.
*Specify one source/adapter cap connector type when ordering.  Additional adapter caps and AC adapters may be ordered separately.

## Ordering Information

| Model | Power Meter | Light Source | Fiber Type | 660 | 850 | 1300 | 1310 | 1490 | 1550 | 1625 | Units of Measure | Dynamic Range (dB) | Available Connector Types* | Set Ref. | PC Software & Storage | Auto Dual Wave Test |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CKM-2 | CSM1-2 | CSS1-MM | MM | | • | • | | | | | dB, dBm, W | 40[1] | SC | • | | |
| CKSM-2 | CSM1-2 | CSS1-MM CSS1-SM | MM SM | | • | • | • | | • | | dB, dBm, W | 40 @ 850/1300nm[1] 60 @ 1310/1550nm[2] | SC | • | | |
| MLP1-1S | OPM1-2C | OLS1-1C | MM | | • | | | | | | dBm | 40 @ 850nm[1] | ST | • | | |
| MLP1-2 | OPM1-2C | OLS1-2C | MM SM | | • | • | | | | | dBm | 40 @ 850/1300nm[1] 20 @ 1300nm[2] | ST | • | | |
| MLP4-1D | OPM4-1D | OLS1-1C | MM | • | • | | | | | | dB, dBm, W | 40 @ 850nm[1] | ST | | | |
| MLP4-2 | OPM4-2D | OLS1-Dual | MM SM | | • | • | | | | | dB, dBm, W | 40 850/1300nm[1] 22 @ 1300nm[2] | FC, SC, ST | | | • |
| MLP5-2B | OPM5-2D | OLS1-Dual | MM SM | | • | • | | | | | dB, dBm, W | 40 @ 850/1300nm[1] 22 @ 1300nm[2] | FC, SC, ST | • | USB | • |
| SLP4-6 | OPM4-3D | OLS2-Dual | SM | | | | • | | • | | dB, dBm, W | 70[2] | FC, SC, ST, LC | • | | • |
| SLP4-6D | OPM4-4D | OLS2-Dual | SM | | | | • | | • | | dB, dBm, W | 50[2] | FC, SC, ST, LC | • | | • |
| SLP4-7 | OPM4-4D | OLS7-3 | SM | | | | • | | • | • | dB, dBm, W | 45[2] | FC, SC, ST, LC | • | | • |
| SLP4-FTTH | OPM4-4D | OLS7-FTTH | SM | | | | • | • | • | | dB, dBm, W | 45[2] | FC, SC, ST, LC | • | | • |
| SLP5-6 | OPM5-3D | OLS2-Dual | SM | | | | • | | • | | dB, dBm, W | 70[2] | FC, SC, ST, LC | • | USB | • |
| SLP5-6D | OPM5-4D | OLS2-Dual | SM | | | | • | | • | | dB, dBm, W | 50[2] | FC, SC, ST, LC | • | USB | • |
| SLP-5-7 | OPM5-4D | OLS7-3 | SM | | | | • | | • | • | dB, dBm, W | 45[2] | FC, SC, ST, LC | • | USB | • |
| SLP5-FTTH | OPM5-4D | OLS7-FTTH | SM | | | | • | • | • | | dB, dBm, W | 45[2] | FC, SC, ST, LC | • | USB | • |
| SMLP4-4 | OPM4-2D | OLS4 | MM SM | | • | • | • | | • | | dB, dBm, W | 40 @ 850/1300nm[1] 60 @ 1310/1550nm[2] | FC, SC, ST, LC | • | | • |
| SMLP5-5 | OPM5-2D | OLS4 | MM SM | | • | • | • | | • | | dB, dBm, W | 40 @ 850/1300nm[1] 60 @ 1310/1550nm[2] | FC, SC, ST, LC | • | USB | • |
| OLTS 5-3 | OLTS 5 test sets can operate either as an optical power meter (OPM) or dual-wavelength laser source. | | SM | | | | • | | • | | dB, dBm, W | 65[2] | FC, SC, ST | • | Serial Link | Bi-Directional |
| OLTS 5-5 | | | SM | | | | | | • | • | dB, dBm, W | 65[2] | FC, SC, ST | • | Serial Link | Bi-Directional |
| OLTS 5-6 | | | SM | | | | • | | • | | dB, dBm, W | 55[2] | FC | • | Serial Link | Bi-Directional |
| C880-100-LP1-S1 (SC/LC Kit) | | | MM SM | | • | • | • | | • | | dB, dBm, W | | SC, ST, LC | • | USB | Bi-Directional |
| C880-100-LP1-S2 (SC/ST Kit) | | | | | | | | | | | | | | | | |
| C840-100-LP1-S1 (Single Unit) | | | | | | | | | | | | | | | | |

1  On 62.5/125um multimode fiber.
2  On 9/125um single-mode fiber.

## Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **AC Adapters (90-264 VAC to 9 VDC)** | | | |
| 4050-00-0111 | For OLS1 and OLS2 | 4050-00-0112PR | For OLTS 5 |
| 4050-00-0119PR | For OLS1-Dual, OLS 2-Dual, OLS 4, and OLS 7 | | |
| **OLS Connector Adapters (D models starting February 2006)** | | | |
| 2900-50-0002MR | SM/MM FC Interface | 2900-50-0004MR | SM/MM ST Interface |
| 2900-50-0003MR | SM/MM SC Interface | 2900-50-0004MR | SM/MM LC Interface |
| **OLTS 5 Accessories** | | | |
| 6000-00-0023MR | USB to RS232 DB9M | 3900-04-0106PE | NiMH-AA battery pack |
| **Mandrel Wraps** | | | |
| 5400-00-0201 | 62.5um fiber, 3mm jacket | 5400-00-0202 | 50um fiber, 3mm jacket |
| 5400-00-0900 | Kit containing both the 5400-00-0201 and 5400-00-0202 | | |

TEST & INSPECTION

# Noyes Optical Light Sources

## OLS 4

### Integrated LED & Laser Light Source with Wave ID

The OLS4 features 850/1300nm multimode LED port and 1310/1550nm singlemode LASER port.  Each wavelength may be transmitted individually or simultaneously with Wave ID.   Simultaneous output allows the operator to test two wavelengths at the same time when using a compatible OPM4 or OPM5 series power meter.

## OLS 7 Series

### Triple Wavelength Laser Light Source with Wave ID

The **OLS7-FTTH** model is designed specifically for today's FTTH network architectures featuring a triple wavelength LASER output from a single port: 1310nm output for testing in the upstream direction and 1490 or 1550nm, for testing in the downstream direction. The **OLS7-3** model features 1310/1550/1625 nm triple wavelength LASER output that is used for single-mode applications, such as Telecom or CATV.

## OLS 2-Dual

### Dual Wavelength Laser Light Source with Wave ID

the OLS2-Dual features 1310nm and 1550nm LASER output from a single output port.   Each wavelength may be transmitted individually or simultaneously with Wave ID.   Simultaneous output allows the operator to test two wavelengths at the same time when using a compatible OPM4 or OPM5 series power meter.
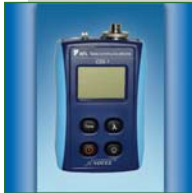
## CSS1-SM

### Dual Wavelength Laser Light Source Contractor Series

The CSS1-SM features 1310nm and 1550nm LASER output from a single output port and is easy to operate.  Each wavelength may be transmitted individually only.

## OLS 1-Dual

### Dual Wavelength LED Light Source with Wave ID

the OLS1-Dual features 850nm and 1300nm LED output from a single output port.   Each wavelength may be transmitted individually or simultaneously with Wave ID.   Simultaneous output allows the operator to test two wavelengths at the same time when using a compatible OPM4 or OPM5 series power meter.

## OLS 1

### Two Port LED Light Source

The OLS1 is easy to operate with only a [Wavelength/ Power] switch, which selects between 850nm and 1300nm optical wavelengths or disables unit.  660nm is also available.

## CSS1-MM

### Dual Wavelength LED Light Source Contractor Series

The CSS1-MM features 850nm and 1300nm LED output from a single output port and is easy to operate.  Each wavelength may be transmitted individually only.

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## Noyes Optical Light Sources

*\* When ordering, specify connector type at the end of model number (e.g. OLS 2-DUAL-SC)*
All OLS models include protective rubber boot, user's guide, and carry case.
AC Adapters are available (ordered separately), see table below.

### Ordering Information

| Model | Output Wavelengths (nm) | | | | | | | Output Ports | Emitter Type | Safety Class | | Output Power (nominal, dBm) | Stability | Wave ID Transmit | Available Connector Types* | Power |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 660 | 850 | 1300 | 1310 | 1490 | 1550 | 1625 | | | FDA | IEC | | | | | |
| CSS1-MM | | • | • | | | | | 1 | LED | N/A | 1 | -20 | +/-0.1 dB / 1 Hr | | SC | (2) AA |
| CSS1-SM | | | | • | | • | | 1 | Laser | 1 | 1 | 0 | +/-0.05 dB / 1 Hr | | FC, SC, ST, LC | (2) AA |
| OLS1-1C | • | • | | | | | | 2 | LED | N/A | 1 | -10 @ 660nm -20 @ 850nm | +/-0.1 dB / 8 Hr | | ST | 9 Volt, AC |
| OLS1-2C | | • | • | | | | | 2 | LED | N/A | 1 | -20 | +/-0.1 dB / 8 Hr | | ST | 9 Volt, AC |
| OLS1-Dual | | • | • | | | | | 1 | LED | N/A | 1 | -20 | +/-0.1 dB / 8 Hr | • | FC, SC, ST | (2) AA, AC |
| OLS2-Dual | | | | • | | • | | 1 | Laser | 1 | 1 | 0[2] | +/-0.05 dB / 1 Hr | • | FC, SC, ST, LC | (2) AA, AC |
| OLS4 | | • | • | • | | • | | 2 | LED & Laser | 1 | 1 | -20 @ 850nm -20 @ 1300nm 0 @ 1310nm 0 @ 1550nm | +/-0.05 dB / 1 Hr | • | FC, SC, ST, LC | (2) AA, AC |
| OLS7-3 | | | | • | | • | • | 1 | Laser | 1 | 1 | -5 | +/-0.05 dB / 1 Hr | • | FC, SC, ST, LC | (2) AA, AC |
| OLS7-FTTH | | | | • | • | • | | 1 | Laser | 1 | 1 | -5 | +/-0.05 dB / 1 Hr | • | FC, SC, ST, LC | (2) AA, AC |

1  Adjustable +/-1 dB.
2  Adjustable 2 dB.
FDA does not regulate LED sources.
660nm LED output power specified into 1000um fiber.  All other LED output powers specified into 62.5um fiber.
All Laser output powers are specified into 9/125um single-mode fiber.

### Accessories

| Part Number | Description |
|---|---|
| **AC Adapters** | |
| 4050-00-0111 | 90-264 VAC to 9 VDC for OLS1 and OLS2 |
| 4050-00-0119PR | 90-264 VAC to 9 VDC for OLS1-Dual, OLS 2-Dual, OLS 4, and OLS 7 |
| **Connector Adapters (D models starting February 2006)** | |
| 2900-50-0002MR | SM/MM FC Interface (D Model) |
| 2900-50-0003MR | SM/MM SC Interface (D Model) |
| 2900-50-0004MR | SM/MM ST Interface (D Model) |
| 2900-50-0004MR | SM/MM LC Interface (D Model) |
| **Mandrel Wraps** | |
| 5400-00-0201 | 62.5um fiber, 3mm jacket |
| 5400-00-0202 | 50um fiber, 3mm jacket |
| 5400-00-0900 | Kit containing both the 5400-00-0201 and 5400-00-0202 |

**TEST & INSPECTION**

# Noyes Optical Power Meters

## OPM 5 Series
### Optical Power Meter with Wave ID, Set Reference and Data Storage

The OPM5 features automatic wavelength identification and switching (Wave ID) when used with Noyes OLS series light sources, multiple test Tone detection for fiber identification, and stores optical references for each calibrated wavelength and up to 500 records per wavelength of power or insertion loss measurements. Using the supplied Windows® compatible software and USB connection, test records are transferred to a PC for analysis, printing, and storage. A large dual-wavelength LCD display with backlight shows measured power [dBm or µW] or insertion loss [dB], calibrated wavelengths [nm], tone signal [Hz], wavelength ID, and estimated remaining battery life.

## OPM 4 Series
### Optical Power Meter with Wave ID and Set Reference

The OPM4 features automatic wavelength identification and switching (Wave ID) when used with Noyes OLS series light sources, multiple test Tone detection for fiber identification, and stores optical references for each calibrated wavelength. A large dual-wavelength LCD display with backlight shows measured power [dBm or µW] or insertion loss [dB], calibrated wavelengths [nm], tone signal [Hz], wavelength ID, and estimated remaining battery life.

## OPM 4-FTTx Series
### Optical Power Meter with Wave ID and Set Reference

Equipped with wavelength filters and a dual photo detector, the OPM4-FTTx can separately and simultaneously measure 1490 and 1550 nm power at the ONT or other points in an FTTx PON. A large, dual-wavelength LCD display with backlight shows power at both wavelengths in units of dBm or µW. A "set reference" feature may be used to compare 1490 or 1550 nm power levels in units of dB measured at different parts of the network.

The OPM4-FTTx is the only power meter from Noyes that includeds an integrated Visual Fault Locator (VFL) - 650 nm (red) laser for short-range fault location and connectivity testing.
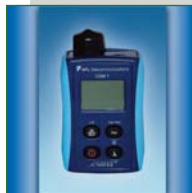
## CSM1
### Optical Power Meter with Set Reference Contractor Series

The CSM1 stores optical references for each calibrated wavelength and features multiple test Tone detection for fiber identification. A large LCD display with backlight shows measured power [dBm or µW] or insertion loss [dB], calibrated wavelengths [nm], tone frequency [Hz], and indicates a low battery condition.

## OPM 1 Series
### Optical Power Meter

With only two controls – ON/OFF and wavelength – the OPM1 is our simplest to use optical power meter. Optical power in dBm and the calibration wavelength setting are displayed on an easy-to-read LCD display.

**TEST & INSPECTION**

# Noyes Optical Power Meters

Adapter caps are required for operation and must be ordered separately.
All CSM1 models include a 2.5mm Universal adapter cap, user's guide and carry case.
All OPM models include protective rubber boot, user's guide and carry case.
All OPM5 models also include USB cable and Windows® compatible software.
AC adapter is available for the OPM5 models (ordered separately), see table below.

## Ordering Information

| Model | Output Wavelengths (nm) | | | | | | | | | Detector Type | Measurement Range (dBm) | Units of Measure | Power | Features | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 660 | 780 | 850 | 980 | 1300 | 1310[1] | 1490 | 1550 | 1625 | | | | | Set Ref. | PC Software & Storage | Wave ID Detect | Tone Detect[2] |
| CSM1-1 | • | • | • | | | | | | | Silicon | +6 to -70 | dB, dBm, W | (2) AA | • | | | • |
| CSM1-2 | | | • | | • | • | | • | | Germ. | +6 to -60 | dB, dBm, W | (2) AA | • | | | • |
| CSM1-3 | | | • | | • | • | • | • | • | InGaAs | +6 to -70 | dB, dBm, W | (2) AA | • | | | • |
| CSM1-4 | | | • | • | | • | • | • | • | InGaAs | +26 to -50 | dB, dBm, W | (2) AA | • | | | • |
| OPM1-2C | | | • | | • | • | | • | | Germ. | +6 to -60 | dBm | 9 volt | | | | |
| OPM1-3C | | | • | | • | • | | • | • | InGaAs | +6 to -70 | dBm | 9 volt | | | | |
| OPM4-1D | • | • | • | | | | | | | Silicon | +6 to -70 | dB, dBm, W | (2) AA | • | | • | • |
| OPM4-2D | | | • | | • | • | • | • | | Germ. | +6 to -60 | dB, dBm, W | (2) AA | • | | • | • |
| OPM4-3D | | | • | | • | • | • | • | • | InGaAs | +6 to -70 | dB, dBm, W | (2) AA | • | | • | • |
| OPM4-4D | | | • | • | | • | • | • | • | InGaAs | +26 to -50 | dB, dBm, W | (2) AA | • | | • | • |
| OPM4-FTTx | | | | | | | • | • | | InGaAs | +20 to -50 | dB, dBm, W | (2) AA | • | | • | • |
| OPM5-2D | | | • | | • | • | • | • | | Germ. | +6 to -60 | dB, dBm, W | (2) AA, AC | • | USB | • | • |
| OPM5-3D | | | • | | • | • | • | • | • | InGaAs | +6 to -70 | dB, dBm, W | (2) AA, AC | • | USB | • | • |
| OPM5-4D | | | • | • | | • | • | • | • | InGaAs | +26 to -50 | dB, dBm, W | (2) AA, AC | • | USB | • | • |

1  Optical Power Meters use a common calibration point for 1300nm (multimode) and 1310nm (single-mode).
2  270 Hz, 330 Hz, 1 kHz and 2 kHz Tone detection.

# Adapter Caps
## OPM Ports, OFS 300-200, VS 300 Power Meter and Inspection

Noyes *standard* thread-on adapter caps are used to mate non-angled single-fiber and dual-fiber connectors to optical power meter ports on our OPM, T400, T500, and ORL 3 series test sets, and inspection ports on our OFS 300-200C and VS 300 microscopes.

## Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 8800-00-0224 | 1.25 mm Universal Adapter Cap | 8800-00-0210 | ESCON Adapter Cap |
| 8800-00-0214 | 2.5 mm Universal Adapter Cap | 8800-00-0211 | DIN 47256 Adapter Cap |
| 8800-00-0200 | FC Adapter Cap | 8800-00-0205 | FDDI (for meters) Adapter Cap |
| 8800-00-0209 | SC Adapter Cap | 8800-00-0201 | D4 Adapter Cap |
| 8800-00-0202 | ST Adapter Cap | 8800-00-0223 | 1000 µm Adapter Cap |
| 8800-00-0221 | E-2000 Adapter Cap | 8800-00-0226 | MU Simplex Adapter Cap |
| 8800-00-0204 | Biconic Adapter Cap | 8800-00-0230 | MT-RJ (A side only) Adapter Cap |
| 8800-00-0203 | SMA Adapter Cap | 8800-00-0231 | MT-RJ (A side or B side) Adapter Cap |
| 8800-00-0225 | Simplex/Duplex Adapter Cap | 8800-00-0232 | Nickel Silver 2.5 mm Adapter Cap |
| 8800-00-0212 | Radial PFO/VFO Adapter Cap | | |

# JDSU Inspection, Cleaning & Test Kits

## FIT Series
### Inspection, Cleaning & Test Kits

JDSU inspection, cleaning, and test kits are designed specifically to meet the needs for today's fiber applications and environments, including LAN/WAN, CATV, TELCO, FTTx, and data centers. Pairing necessary test and inspection equipment gives technicians everything they need to ensure the best performance from optical connections in their networks.

Each kit is configured with the following:

- Inspection Scope and Display
- Optical Light Source and Power Meter
- Appropriate Reference Cables
- Visual Fault Locator

- IBC Cleaners for Bulkheads & Patchcords
- Micro Care WFW Lint Free Wipes
- Micro Care FCC2 Cleaning Fluid
- Deluxe Carrying Case
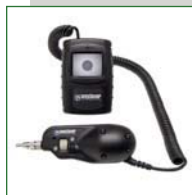
### FBP & FBE Inspection Scopes

The JDSU video fiber inspection probe and handheld display system is used to inspect both "male" (patch cord) and "female" (bulkhead) sides of a fiber interconnect. Both the probe and display fit comfortably in a user's hand for portability and easy operation. Various interchangeable tips enable optimized inspection for different connector types and applications.

The FBP series probe provides dual (200x and 400x) magnification and a selection of over 350 different inspection tips. FBE series probes provide a more economical option with single magnification (200x or 400x) and a selection of common tip configurations. Both configurations are used in conjunction with a compact HD3 series, 1.8-inch TFT LCD display unit to provide a completely portable inspection solution for fiber technicians.

### OLS-5 & OLS-6 Pocket Class Dual-Wavelength Optical Light Sources

The JDSU OLS-5 and OLS-6 Pocket Class Optical Light Sources measure dual wavelength in various single-mode or multimode applications alongside JDSU Pocket Class or SMART Optical Power Meters. The simple, three-button operation and easy-to-read display make them extremely user friendly. The OLS-5 Optical LED Source delivers multimode power and loss testing at 850 and 1300 nm, while the OLS-6 Optical Laser Source tests single-mode power and loss at 1310 and 1550 nm. Together with a JDSU Optical Power Meter (OLP), the automatic wavelength detection guarantees fast, error-free results.

### OLP-5, OLP-6 & OLS-8 Pocket Class Optical Power Meters

The JDSU OLP-5, OLP-6, and OLP-8 are handy, pocket-sized optical power meters for quick, easy, and convenient field measurement of optical power and attenuation in fiber networks. They can be used independently for simple output tests, or with a light source for insertion loss measurements. The full functionality of the pocket-sized OLP range is realized when used with a JDSU optical light source (OLS). The OLP-5 is dedicated to local area network (LAN)/multimode or single-mode applications. The OLP-6 covers mostly the standard telecom applications, while the OLP-8 is dedicated to higher power applications like CATV networks, dense wavelength division multiplexing (DWDM) systems, and erbium doped fiber amplifier (EDFA) testing.

### OLS-55 SMART Optical Laser Source

The handheld OLS-55 SMART Optical Laser Source suits every application from passive optical networks (PON) to Gigabit Ethernet (GigE) and offers the flexibility to test, install, and maintain single-mode and multimode fiber optic networks.

### OLP-57 SMART Optical Power Meter

The OLP-57 SMART Optical Power Meter is used for installing, testing, and maintaining single-mode and multimode networks and cables. The SMART Optical Power Meters define a new industry standard with a unique, built-in auto-zeroing function for auto dark current compensation, which significantly increases accuracy.

**TEST & INSPECTION**

# JDSU Inspection, Cleaning & Test Kits

### FFL-100 Visual Fault Locator

The Visual Fault Locator (VFL) is a ruggedized, handheld tool used to locate breaks and/or damage in optical fibers. It employs a powerful red laser designed to couple to optical connectors, providing the ability to locate areas in a fiber that have been damaged, broken, or tightly bent. The laser light will escape from the fiber at the exact site of the damage, causing the cable sheath to illuminate red. The FLASH control allows for two options: continuous illumination or flashing mode. The VFL (FFL-100) is fully assembled and comes with a soft-sided carrying case. Included are 2 batteries with > 80 hours of continuous-mode battery life. It is equipped with a 2.5 mm interface for compatibility with connectors such as SC, ST, and FC, while the 1.25 mm adapter interface (included) enables compatibility with small form-factor connectors such as LC and MU.

### IBC Brand Connector Cleaners

IBC™ brand cleaners are dry cloth cleaners specifically designed to clean either side of a fiber connection. For cleaning connectors behind a bulkhead, simply insert the device into the bulkhead until a click sound is heard. For cleaning patch cords, the dust cap acts as an adapter to receive the connector ferrule. These tools are simple to use and highly effective at removing oil and dust contaminants.

### Micro Care Cleaning Supplies

FCC2™ optical-grade solvent is designed specifically for cleaning optical connectors. Electrically conductive, this solvent is ideal and effective at removing stubborn forms of debris by dissipating static charges that bind particulate to connector end faces. Ideal for wet-to-dry cleaning procedures, this fast-drying solvent is nonflammable, nontoxic, noncorrosive, and safe to use.

### Ordering Information

| Part Number | Description |
|---|---|
| FIT-S001 | LAN/WAN - OLS-5, OLS-6, OLP-5, VFL, 200X FBE Probe, Hardwired to HD3 Display. Tips: SC, LC, ST, U25M, U12M, cleaning materials, patch cords and deluxe carrying case. |
| FIT-S002 | CATV/TELCO - OLS-6, OLP-8, VFL, 200X FBE Probe, Hardwired to HD3 Display. Tips: SC, LC, SC-APC, FC, U25M, U25MA, U12M, cleaning materials, patch cords and deluxe carrying case. |
| FIT-S003 | FTTx - OLS-55, OLP-57, VFL, 200/400X FBP Probe, Hardwired to HD3 Display. Tips: SC, SC-APC, U25M, U25MA, cleaning materials, patch cords and deluxe carrying case. |
| FIT-S004 | Data Center - OLS-5, OLS-6, OLP-5, VFL, 200/400X FBP Probe, Hardwired to HD3 Display. Tips: SC, LC, MTP, U25, U12, cleaning materials, patch cords and deluxe carrying case. |
| FIT-S005 | Professional - OLS-6, OLP-8, VFL, 200/400X FBP Probe, HD3 Display. Tips: SC, LC, FC, ST, SC-APC, U25M, U25MA, U12M, cleaning materials, patch cords and deluxe carrying case. |
| FIT-S005-NT | Professional (No test) - 200/400X FBP Probe, HD3 Display. Tips: SC, LC, FC, ST, SC-APC, U25M, U25MA, U12M, cleaning materials, patch cords and deluxe carrying case. |

**TEST & INSPECTION**

# JDSU Fiber Inspection & Test Systems

## FIT Series
### Integrated Fiber Inspection & Test System

The HP3-60 system, derived from the popular HD3 series, provides high-quality image resolution in a compact, portable design. The integrated power meter offers quick, easy, and convenient field measurement of optical power and attenuation. Easy push-button operation makes the device simple and straightforward, while the inspect-test process establishes optimal workflow practices.

The HP3-60-P4 system gives the added benefit of an integrated 400x patch cord inspection scope and kits are available that include a FBP probe scope and/or cleaning supplies.

### Features & Benefits

- Inspects both sides of the fiber interconnect and accurately tests optical power with one device
- Integrated functions and features eliminate switching between multiple devices
- Input for FBP series probe scope and a separate patch cord inspection scope let users quickly inspect both sides of the fiber interconnect
- Integrated patch cord inspection scope eliminates the need for changing inspection tips, prevents misrouting and protects patch cords
- 1.8 inch TFT LCD to view clear, crisp, detailed images of fiber end faces with optimal resolution
- Integrated power meter (OLP-6) for single mode and multimode applications
- Modulation frequency detection lets users identify individual fibers
- Three-year calibration period
- Dual wavelength and automatic wavelength detection when used with a JDSU optical light source

### FIT-HP3-60

Handheld display and integrated power meter only. Requires FBP Series probe scope with 4-pin output for bulkhead inspection capability.

### FIT-HP3-60-P4

Uses the HP3-60 platform but includes an integrated 400x integrated patch cord inspection scope. A push button A/B switch allows the user to toggle between the patch cord and bulkhead (probe) view. Requires FBP Series probe scope with 4-pin output for bulkhead inspection capability.

### FIT-S105

Kit that includes an FBP-P5 200/400x dual magnification probe scope with the HP3-60-P4 fiber inspection & test system with integrated patch cord inspection scope. Comes with a carry case and with or without connector cleaning materials.

### Ordering Information

| Part Number | Description |
|---|---|
| FIT-HP3-60 | Handheld display with integrated power meter |
| FIT-HP3-60-P4 | Handheld display with integrated power meter and 400x patch cord inspection scope |
| FIT-S105 | Kit: Includes the FIT-HP3-60-P4, FBP-P5 200/400x probe scope and carry case |
| FIT-S105-C | Kit: Includes the FIT-HP3-60-P4, FBP-P5 200/400x probe scope, carry case and cleaning materials |

**TEST & INSPECTION**

Specifications may change without notice

# Noyes Return/Loss Meters

## TURBOTEST 500B Series
### Single Mode Return/Loss Test Set

The TURBOTEST 500B Series offers the latest technology in a single fiber bi-directional loss and return loss testing. The T500B is a handheld fiber optic test and measurement instrument. It performs Optical Power, Optical Return Loss, and Optical Loss measurements. Five compact models are available, including the 3-wavelength (1310/1550/1625) T506B and (1310/1550/1490) T506B-FTTH. An optional dedicated digital talk option is available for full time/full duplex communication between test operators while testing other fibers in a bundle.

The T500B can store up to 1000 records (40 files) in any combination of its four operating modes and if any configuration other than TRIPLE wavelength is selected. If the configuration is TRIPLE wavelength, the T500B can store up to 500 records (40 files). Stored test results can be transferred to a PC for a complete report generation.

Powered by an internal rechargeable Lithium-Ion battery, the T500B comes with protective rubber boots, PC software and manual, AC adapter/charger, RS-232 serial cable, APC/UPC reference cable, adapter cap, mandrel, screwdriver, hex screwdriver, warranty registration card, user's guide, and carry case.

All Turbotest 500B models include APC/UPC test jumper, software, adapter cap, serial cable, hex driver, screwdriver, mandrel, AC adapter, protective rubber boot, user's guide and carry case.  A headset is included when ordered with talk option.  Specify either SC or FC connector type at the end of the part number (e.g. T504B-Y-SC is a 1310/1550 Turbotest w/ 1550nm Talk Set Option and an SC connector.)

### Ordering Information

| Part # | Description |
|---|---|
| T503B | TurboTest T500B Optical Loss/Return Loss Test Set for 1310 & 1550nm, +6 to -70 dBm Dynamic Range |
| T504B | TurboTest T500B Optical Loss/Return Loss Test Set for 1310 & 1550nm, +26 to -50 dBm Dynamic Range |
| T506B | TurboTest T500B Optical Loss/Return Loss Test Set for 1310, 1550 & 1625nm, +26 to -50 dBm Dynamic Range |
| T506B-FTTH | TurboTest T500B Optical Loss/Return Loss Test Set for 1310, 1490 & 1550nm, +26 to -50 dBm Dynamic Range |

**1550nm Talk Set Option**
Add -Y to model number (e.g. T504B-Y is a 1310/1550nm TurboTest with 1550nm Talk Set Option)

## ORL 3B
### Multimode Return/Loss Test Set

The ORL 3B is a handheld fiber optic test and measurement instrument that offers two modes of testing. It performs optical return loss measurements (ORL mode) and operates as an optical power meter (OPM mode).

The ORL 3B can store up to 1000 records (40 files) in any combination of its two operating modes. With the supplied PC software, saved test results can be transferred to a PC for storage, printing, and analysis. The ORL3B operates from an internal rechargeable Lithium-Ion battery pack or external AC power adapter.

All ORL 3B models include software, adapter cap and carry case.  AC adapters are available and sold separately.  Specify either ST, SC or FC connector type at the end of the part number (e.g. ORL3B-MM-SC is an ORL3B with an SC connector.)

### Ordering Information

| Part # | Description |
|---|---|
| ORL3B-MM | ORL3B-MM Multimode Loss / Return Loss Test Set |

**TEST & INSPECTION**

# Noyes Return/Loss Meters

## Adapter Caps

**OPM Ports, OFS 300-200, VS 300** Power Meter and Inspection

Noyes *standard* thread-on adapter caps are used to mate non-angled single-fiber and dual-fiber connectors to optical power meter ports on our OPM, T400, T500, and ORL 3 series test sets, and inspection ports on our OFS 300-200C and VS 300 microscopes.

### Ordering Information

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| 8800-00-0224 | 1.25 mm Universal Adapter Cap | 8800-00-0210 | ESCON Adapter Cap |
| 8800-00-0214 | 2.5 mm Universal Adapter Cap | 8800-00-0211 | DIN 47256 Adapter Cap |
| 8800-00-0200 | FC Adapter Cap | 8800-00-0205 | FDDI (for meters) Adapter Cap |
| 8800-00-0209 | SC Adapter Cap | 8800-00-0201 | D4 Adapter Cap |
| 8800-00-0202 | ST Adapter Cap | 8800-00-0223 | 1000 μm Adapter Cap |
| 8800-00-0221 | E-2000 Adapter Cap | 8800-00-0226 | MU Simplex Adapter Cap |
| 8800-00-0204 | Biconic Adapter Cap | 8800-00-0230 | MT-RJ (A side only) Adapter Cap |
| 8800-00-0203 | SMA Adapter Cap | 8800-00-0231 | MT-RJ (A side or B side) Adapter Cap |
| 8800-00-0225 | Simplex/Duplex Adapter Cap | 8800-00-0232 | Nickel Silver 2.5 mm Adapter Cap |
| 8800-00-0212 | Radial PFO/VFO Adapter Cap | | |

### T500B & ORL 3B Accessories

| Part # | Description |
|---|---|
| 4050-00-0118PR | AC Adapter 100-240 VAC to 18 VDC |
| 6000-00-0023MR | USB to RS232 DB9M |
| 3900-05-0001PE | Lithium Ion battery |

## Index Matching Block

When performing backreflection measurements it is important to eliminate the backreflection at the end of the cable under test. By touching the tip of the connector at the far side of the cable under test to the Index Matching Block, this backreflection is virtually eliminated.

### Ordering Information

| Part # | Description |
|---|---|
| IMBG | Index Matching Block with a 1.46 index of refraction. |

**TEST & INSPECTION**

# Noyes OTDRs

OTDRs or Optical Time Domain Reflectometers are the ideal diagnostic tools to locate faults in an optical network. By sending a series of short pulses of light down a fiber and measuring the small amount of light that is reflected back , the OTDR can provide a graphical representation of the fiber run.

## C860
### QUAD OTDR and Certification Test Kit

- 850/1300nm & 1310/1550nm
- 22-26 dB Dynamic Range
- 1.5 m Event Dead Zone
- 250 m to 256 km Range Settings
- Integrated VFL & OPM
- Complete Tier 1 and Tier 2 Cert. Testing
- 6.5 & 3.8 inch Color Touch Screen

- SC/FC/ST/LC Adapters Available
- Rechargeable Li-Ion Battery (8 hours)
- 4 Hour Recharge Time
- 1000 Traces Internal Storage
- USB Connectivity
- 27.4 x 19.3 x 7.1 cm & 23 x 11 x 7 cm
- 2.3 kg & 0.9 kg

The Noyes C860 QUAD Certification and OTDR Test Kit from AFL Telecommunications includes one handheld C840 QUAD OLTS Tester and one C850 QUAD OTDR/OLTS with built-in auto test functionality. With this kit, technicians can troubleshoot and perform both Tier 1 and Tier 2 certification tests of MM and SM fiber networks, store results and create professional test reports.

The C850 is both a QUAD Certification Tester and full-featured QUAD OTDR in a compact case with a large transflective touch screen display suitable for both indoor and outdoor operation. The C850 features MM and SM OTDR capabilities, both single-mode and multimode Optical Light Sources (OLS), Visual Fault Locator (VFL, 650 nm), and an Optical Power Meter (OPM). As an OTDR, the C850 supports Full Auto, Expert (manual) and Real-Time test modes, simultaneous dual and single wavelength testing, and Event and Pass/Fail analysis based on default or user defined thresholds.

The Noyes C840 QUAD Certification Tester includes VFL, OPM, and both single-mode (Laser 1310/1550 nm) and multimode (LED 850/1300 nm) OLS. The C840 may be used alone as a traditional power meter and light source to measure fiber loss or as a visual fault locator to find fiber breaks.

The C840 and C850 can be used together to perform Tier 1 dual wavelength MM (850/1300nm) and SM (1310/1550nm) auto loss tests of one or two fibers in one or both directions; and measure both loss and length of the fibers and compare to industry standards (TIA/ISO/EN), applications and user defined thresholds values to certify the fibers. Either unit can be identified as the Main or Remote. The user may test two fibers at two wavelengths bi-directionally and store the results into the main unit. Featuring rich file naming, the Job setup wizard allows the user to define both the cable and fiber end locations, creating easily identifiable trace files, which are managed into Job and Cable folders.

## M700 & M650
### Compact Single Mode & QUAD OTDR

**M700**
- 1310/1550nm
- 36-38 dB Dynamic Range

- 0.9 m Event Dead Zone

**M650**
- 850/1300nm & 1310/1550nm
- 22-26 dB Dynamic Range

- 1.5 m Event Dead Zone

**Both**
- 250 m to 256 km Range Settings
- Integrated VFL & OPM
- 6.5 inch Color Touch Screen
- SC/FC/ST/LC Adapters Available
- Rechargeable Li-Ion Battery (8 hours)

- 4 Hour Recharge Time
- 1000 Traces Internal Storage
- USB Connectivity
- 27.4 x 19.3 x 7.1 cm
- 2.3 kg

**TEST & INSPECTION**

# Noyes OTDRs

## M200
### Handheld QUAD OTDR

- 850/1300nm &/or 1310/1550nm
- 22-26 dB Dynamic Range
- 1.5 m Event Dead Zone
- 250 m to 32 km Range Settings
- Integrated VFL
- 3.75 inch Color Touch Screen
- SC/FC/ST/LC Adapters Available

- Rechargeable Li-Ion Battery (6 hours)
- 3 Hour Recharge Time
- 1000 Traces Internal Storage
- USB Connectivity
- 23 x 11 x 7 cm
- 0.9 kg

## OFL 280 & OFL 250
### Handheld Single Mode OTDR

**OFL 280**
- 1310/1550/1625nm (installation model)
- 1310/1490/1550nm (construction model)

- 28-30 dB Dynamic Range
- 1.3 m Event Dead Zone

**OFL 250**
- 1310/1550nm or 1310/1550/1625nm
- 26 dB Dynamic Range

- 1.5 m Event Dead Zone

**Both**
- 250 m to 256 km Range Settings
- Integrated VFL, OPM & OLS
- 3.5 inch Color Screen
- SC/FC/ST/LC Adapters Available
- Rechargeable Li-Ion Battery (12 hours)

- 1000 Traces Internal Storage
- USB Connectivity
- 19 x 11.2 x 4.7 cm
- 0.8 kg

The Noyes OFL 280 from AFL Telecommunications is a single-mode OTDR offered in two FTTx-optimized models. The 'installation and repair' model can operate at three wavelengths (1310/1550/1625 nm) on dark fibers, but automatically switches to a filtered, 1625 nm only mode if a live fiber is detected. In addition, the test port is equipped with a PON power meter, which allows the OFL 280 to detect live FTTx fibers, measure FTTx network power levels, and fault-locate live FTTx fibers with a single OTDR to network connection and a single automated test. A conventional three-wavelength (1310/1490/1550 nm) "construction" model is also available to certify or fault-locate dark fibers in FTTx or other single-mode fiber optic networks.

## OFL 200
### Handheld Singlemode OTDR

- 1550nm or 1625nm
- 23-24 dB Dynamic Range
- 2.0 m Event Dead Zone
- 70 km Max Range Setting
- Integrated VFL
- 3.5 inch Monochrome Screen

- SC/FC/ST/LC Adapters Available
- Rechargeable NiMH Battery (8 hours)
- 48 Traces Internal Storage
- Serial Port Connectivity
- 19 x 11.2 x 4.7 cm
- 0.6 kg

**TEST & INSPECTION**

# Noyes OTDRs

**TEST & INSPECTION**

### Ordering Information

| Part Number | Description |
|---|---|
| **C860** | |
| C860-100-LP1-H2 | C860 OTDR & Cert. Test Kit - 850/1300/1310/1550 source, SC/FC/LC adapter caps & Fiber Rings (SC/LC) |
| C860-100-LP1-H5 | C860 OTDR & Cert. Test Kit - 850/1300/1310/1550 source, SC/FC/LC adapter caps & Fiber Rings (SC/ST) |
| **C850** | |
| C850-100-LP1-S1 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps - soft case |
| C850-100-LP1-H1 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps |
| C850-100-LP1-H2 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps & Fiber Rings (SC/LC) |
| C850-100-LP1-H3 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps, Fiber Rings (SC/LC) & Scope |
| C850-100-LP1-H4 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps, Fiber Rings (SC/LC) & 2nd Battery |
| C850-100-LP1-H5 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps & Fiber Rings (SC/ST) |
| C850-100-LP1-H6 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps, Fiber Rings (SC/ST) & Scope |
| C850-100-LP1-H7 | C850 OTDR - 850/1300/1310/1550 source, SC/FC/LC adapter caps, Fiber Rings (SC/ST) & 2nd Battery |
| **M700** | |
| M700-11-0901PR | M700 OTDR - 1310/1550nm source, SC/FC/LC adapter caps - soft case |
| M700-11-0902PR | M700 OTDR - 1310/1550nm source, SC/FC/LC adapter caps & Scope |
| M700-11-0903PR | M700 OTDR - 1310/1550nm source, SC/FC/LC adapter caps & 2nd Battery |
| **M650** | |
| M650-100-LP1-S1 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps - soft case |
| M650-100-LP1-H1 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps |
| M650-100-LP1-H2 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps & Fiber Rings (SC/LC) |
| M650-100-LP1-H3 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps, Fiber Rings (SC/LC) & Scope |
| M650-100-LP1-H4 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps, Fiber Rings (SC/LC) & 2nd Battery |
| M650-100-LP1-H5 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps & Fiber Rings (SC/ST) |
| M650-100-LP1-H6 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps, Fiber Rings (SC/ST) & Scope |
| M650-100-LP1-H7 | M650 OTDR - 850/1300/1310/1550nm source, SC/ST/LC adapter caps, Fiber Rings (SC/ST) & 2nd Battery |
| **M200** | |
| M200-K-MM | M200 OTDR - 850/1300nm source, SC/ST adapter caps and soft case |
| M200-K-MM-PR | M200 OTDR - 850/1300nm source, SC/ST adapter caps and hard case |
| M200-K-SM | M200 OTDR - 1310/1550nm source, SC/FC adapter caps and soft case |
| M200-K-SM-PR | M200 OTDR - 1310/1550nm source, SC/FC adapter caps and hard case |
| M200-K-QUAD | M200 OTDR - 850/1300/1310/1550nm source, SC/FC/ST adapter caps and soft case |
| M200-K-QUAD-PR | M200 OTDR - 850/1300/1310/1550nm source, SC/FC/ST adapter caps and hard case |
| **OFL 280** | |
| OFL280-102U-ENG | OFL 280 FTTx Construction OTDR - 1310/1490/1550nm source, SC/UPC port and soft case |
| OFL280-102A-ENG | OFL 280 FTTx Construction OTDR - 1310/1490/1550nm source, SC/APC port and soft case |
| OFL280-103U-ENG | OFL 280 FTTx Installation OTDR - 1310/1550/1625nm source, SC/UPC port and soft case |
| OFL280-103A-ENG | OFL 280 FTTx Installation OTDR - 1310/1550/1625nm source, SC/APC port and soft case |
| **OFL 250** | |
| OFL2-26-0910PR | OFL 250 OTDR - 1310/1550nm source, SC/FC adapter caps and soft case |
| OFL2-26-0924PR | OFL 250 OTDR - 1310/1550/1625nm source, SC/FC adapter caps and soft case |
| **OFL 200** | |
| OFL2-20-0910 | OFL 200 OTDR - 1550nm source, SC/FC adapter caps and soft case |
| OFL2-21-0910 | OFL 200 OTDR - 1625nm source, SC/FC adapter caps and soft case |

# Noyes OTDRs



## OTDR Test Cables
### Fiber Rings

To measure the insertion loss of the near-end and/or far-end connection of a fiber optic link, an OTDR requires a launch and/or receive test cable, which essentially is a test jumper that can range from about 150m to over 1km in length. Because very long test jumpers are impractical to transport and use, Noyes offers coiled lengths of 50 mm multimode, 62.5 mm multimode, or single-mode fiber, packaged in compact rings, for use as OTDR test cables. Fiber Rings of 150 m of fiber are ideal for premises fiber network test applications. Fiber Rings of 500m and 1km of single-mode fiber are designed for broadband, long-haul fiber network test applications.

### Ordering Information

| Part Number | Configuration | Fiber Type | Fiber Length |
|---|---|---|---|
| FR1-M5-150-x1-x2 | Standard, one fiber | Multimode, 50um | 150 m (492 ft) |
| FR1-L5-150-x1-x2 | Standard, one fiber, Laser Optimized | Multimode, 50um | 150 m (492 ft) |
| FR1-M6-150-x1-x2 | Standard, one fiber | Multimode, 62.5um | 150 m (492 ft) |
| FR1-SM-150-y1-y2 | Standard, one fiber | Single mode | 150 m (492 ft) |
| FR1-SM-500-y1-y2 | Standard, one fiber | Single mode | 500 m (1640 ft) |
| FR1-SM-1000-y1-y2 | Standard, one fiber | Single mode | 1000 m (3280 ft) |
| FR3-M5-x1-MTRJ | MT-RJ near-end, A and B Fibers | Multimode, 50um | 150 m (492 ft) |
| FR3-M6-x1-MTRJ | MT-RJ near-end, A and B Fibers | Multimode, 62.5um | 150 m (492 ft) |
| FR3-SM-x1-MTRJ | MT-RJ near-end, A and B Fibers | Single-mode | 150 m (492 ft) |
| FR1-M5-x1-E2000 | E2000 to ST, SC, FC, etc., one fiber | Multimode, 50um | 150 m (492 ft) |
| FR1-M6-x1-E2000 | E2000 to ST, SC, FC, etc., one fiber | Multimode, 62.5um | 150 m (492 ft) |
| FR1-SM-x1-E2000 | E2000 to ST, SC, FC, etc., one fiber | Single-mode | 150 m (492 ft) |
| FR1-M5-E2000-E2000 | E2000 to E2000, one fiber | Multimode, 50um | 150 m (492 ft) |
| FR1-M6-E2000-E2000 | E2000 to E2000, one fiber | Multimode, 62.5um | 150 m (492 ft) |
| FR1-SM-E2000-E2000 | E2000 to E2000, one fiber | Single-mode | 150 m (492 ft) |

*x1, x2 - connectors for multimode cables, specify type [ST, SC, ASC (angled SC), FC, AFC (angled FC), LC]*
*y1, y2 - connectors for single-mode cables, specify type [ST, SC, ASC (angled SC), FC, AFC (angled FC), LC]*
*Other connector types, fiber types and fiber lengths can be quoted upon request.*

### Other OTDR Accessories

| Part Number | Description | Part Number | Description |
|---|---|---|---|
| **OTDR Port Adapter Caps - All Models** | | | |
| 2900-50-0002MR | FC Adapter | 2900-50-0004MR | ST Adapter |
| 2900-50-0003MR | SC Adapter | 2900-50-0005MR | LC Adapter |
| **VFI Port Adapter Caps** | | | |
| **All Models (except OFL 250)** | | **OFL 250** | |
| 2900-50-0007MR | 2.5mm Universal | 2900-53-0001MR | 2.5mm Universal |
| 2900-50-0010MR | 1.25mm Universal | 2900-53-0002MR | 1.25mm Universal |
| **OPM Port Adapter Caps - OFL 250 Only** | | | |
| 2900-52-0001MR | FC Adapter | 2900-52-0003MR | ST Adapter |
| 2900-52-0002MR | SC Adapter | 2900-52-0004MR | LC Adapter |
| 2900-52-0005MR | 2.5mm Universal | 2900-52-0006MR | 1.25mm Universal |
| **AC Adapters** | | | |
| 4050-00-0119PR | OFL 200 | 4050-00-0120PR | OFL 250 |
| 4050-00-0118PR | M Series & C860 | | |
| **Batteries** | | | |
| 3900-04-0007ME | OFL 200 NiMH Battery Pack | 3900-05-0001PE | M200 Li-Ion Battery Pack |
| 3900-05-0003ME | OFL 250 Li-Ion Battery Pack | 3900-05-0004ME | M700 Li-Ion Battery Pack |
| **Battery Chargers** | | | |
| 4050-30-0005MR | OFL 250, M Series & C860 Battery Charger | | |
| **Data Cables** | | | |
| 6000-00-0003MR | OFL 200 Serial Cable | 6000-00-0023MR | OFL 200 USB to RS232 |
| 6000-00-0024MR | OFL 250, M Series & C860 USB-Mini | | |
| **Hard Cases** | | | |
| 1400-01-0075PZ | M200 Hard Case | 1400-01-0083PZ | M700 Hard Case |
| **Miscellaneous** | | | |
| 1420-35-0009PR | M200 CF Slot Cover | | |

TEST & INSPECTION

# Noyes FTK Pro Installer Kit

## FTK-01-0900PR
### Complete Testing, Cleaning and Inspection Kit

The Noyes FTK Pro Installer Kit from AFL Telecommunications provides a wide selection of fiber optic testing, cleaning, and inspection equipment to enable technicians to install and maintain fiber optic networks. Available with multimode and single-mode test equipment, the kit also includes a broad array of cleaning and inspection equipment in a convenient tough injection-molded ABS carrying case. The Pro Installer Kit is ideal for TIA Tier 1 and Tier 2 testing of premises (building and campus) networks or certification and troubleshooting of FTTx PON networks.

### Features & Benefits

- Clean, inspect, and test fiber optic networks
- Multimode and single-mode fiber ready
- Verify integrity of installed fiber networks
- Software to present network owners with written proof of a quality installation
- Convenient rugged hard carry case

### Kit Contents

| Part Number | Description | |
|---|---|---|
| **M200** | Quad OTDR, 850/1300 nm MM, 1310/1550 nm SM | |
| **OPM 5-2D** | Optical Power Meter (Wave ID, Set Reference, Data Storage) | |
| **OLS 4** | Optical Light Source (LED and Laser) | |
| **OFS300-200C** | Optical Fiber Scope (200x) | |
| **Fiber Rings (1 each)** | FR1-L5-150-SC-ST | (50/125 OM3 550 Laser Optimized) |
| | FR1-L5-150-SC-LC | (50/125 OM3 550 Laser Optimized) |
| | FR1-L5-150-ST-LC | (50/125 OM3 550 Laser Optimized) |
| | FR1-M6-150-SC-ST | (62.5/125) |
| | FR1-M6-150-SC-LC | (62.5/125) |
| | FR1-M6-150-ST-LC | (62.5/125) |
| | FR1-SM-150-SC-ST | (SM) |
| | FR1-SM-150-SC-LC | (SM) |
| | FR1-SM-150-ST-LC | (SM) |
| **Adapters** | SC, ST, LC for the OTDR/OLS ports (2 each) | |
| | SC, ST, LC for the OPM Unit | |
| | 2.5mm and 1.25mm Universal for OFS and for VFL on OTDR | |
| **Jumpers 2 meters in length (2 each)** | SC-ST | (50/125 OM3 550 Laser Optimized) |
| | SC-LC | (50/125 OM3 550 Laser Optimized) |
| | SC-ST | (62.5/125) |
| | SC-LC | (62.5/125) |
| | SC-ST | (SM) |
| | SC-LC | (SM) |
| **Bulkheads** | SC/SC, ST/ST, LC/LC | |
| **Cleaning Supplies** | FiberWipes™ Mini-tub | |
| | Cletop -SB with white tape | |
| | Cletop replacement tape (white) | |
| | FCC2 Fiber Connector Cleaner | |
| | Connector Cleaning Tips (for cleaning in sockets): 2.5mm and 1.25mm | |
| | One-Click Cleaner SC/ST/FC | |
| | One-Click Cleaner LC/MU | |
| **Miscellaneous Accessories** | (2) Mandrels: 62.5mm, 3mm jacket and 50mm, 3mm jacket | |
| | Stylus pen for the M200 touch screen | |
| | USB thumb drive, 1G | |
| | Plastic parts boxes to hold adapters (Qty 3) | |
| | Case to hold up to 12 jumpers (2 – 5 meters in length) | |
| **Report Software** | Windows® compatible software and user guide | |

# Fault Identifiers

Fault identifiers are power visible red laser sources designed to troubleshoot faults on fiber optic cables. Light generated by these units will escape from sharp bends and breaks in jacketed or bare fibers, as well as poorly mated connectors. They can identify faults in fiber optic jumper cables, distribution frames, patch panels, and splice trays.

Fault identifiers are also an excellent complement to an OTDR because they can locate faults inside the OTDR's dead-zone. Other applications include end-to-end continuity checks, identifying connectors in patch panels and fibers during splicing operations.
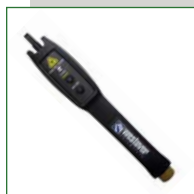
## Noyes
### VFI 2 Visual Fault Identifiers

- 1 mW Output Power (635nm)
- Continuous and Flashing Output Modes
- 2.5mm Universal Adapter Cap (1.25mm available)
- 2 x AA Batteries (~60 Hours)
- 14.0 x 6.2 x 3.2 cm
- 200 g

## Noyes
### HILITE "Keychain" Visual Fault Identifiers

- 1 mW Output Power (635nm)
- Flashing Output
- 2.5mm Universal Adapter Cap (1.25mm available)
- 1 x AAA Battery (~4 Hours)
- 7.0 x 3.6 x 1.5 cm
- 50 g

## Westover
### FFL-100 Visual Fault Locator

- 1 mW Output Power (635nm)
- Continuous and Flashing Output Modes
- 2.5mm & 1.25mm Universal Adapter Cap
- 2 x AA Battery (~80 Hours)
- 22.0 x 3.5 x 3.0 cm
- 150 g

## Ideal
### VFF5 Visual Fault Finder

- 1 mW Output Power (635nm)
- Continuous and Flashing Output Modes
- 2.5mm Universal Adapter Cap
- 2 x AA Battery (~80 Hours)
- 20.3 x 2.2 cm
- 150 g

## JDSU
### OVF-1 "Pen-size" Visual Fault Finder

- 1 mW Output Power (635nm)
- Continuous and Flashing Output Modes
- 2.5mm Universal Adapter Cap (1.25mm available
- 2 x AAA Battery (~40 Hours)
- 17.0 x 1.3 cm
- 50 g

### Ordering Information

| Part Number | Mfg. | Description | 1.25mm Adapter |
|---|---|---|---|
| VFI 2 | Noyes | VFI 2 w/ 2.5mm Adapter & Carry Case | 2900-50-0010MR |
| HILITE | Noyes | HiLite w/ 2.5mm Adapter & Carry Case | 2900-50-0010MR |
| FFL-100 | Westover | FFL-100 w/ 2.5mm, 1.25mm Adapter & Carry Case | FFL-U12 |
| VFF5 | Ideal | VFF5 w/ 2.5mm Adapter & Carry Case | NA |
| BN 2252/01 | JDSU | OVF-1 w/ 2.5mm Adapter & Carry Case | BN 2252/02 |

**TEST & INSPECTION**

# Continuity Testers

**TEST & INSPECTION**

## Noyes

**MT Tracer** 12-Fiber Visible Laser Source & Display

The MT Tracer is a compact multi-fiber visual fault identifier (red laser source) supporting 8 or 12 fiber MTP® connections. The user simply connects the 12-fiber cable directly to the unit. Fibers can be tested individually or all at once. By progressing sequentially through the fibers, cables can be quickly checked for polarity by verifying the proper order at the output.

The MT Tracer Display is a passive optical device designed to receive the light from the MT Tracer Source and provide an eye-safe method of viewing the red light. Identification is accomplished by expanding the output of the MT ferrule to a large easy to read panel - large enough to be read from several feet away.

### Ordering Information

| Part Number | Description |
| --- | --- |
| MT Tracer Kit | 12-Fiber MT Tracer Kit Including the MT Tracer Source and MT Tracer Display |
| MT Tracer Source | MT Tracer, 12-Fiber Visible Laser Source |
| MT Tracer Display | MT Tracer, 12-Fiber Display |
| 4050-00-0113 | AC Adapter, 120VAC/ 3VDC |

## Miller

**CCT 2001** Continuity Tester

The Miller Fiber Continuity Tester is a high intensity, long-lasting, green, LED light source used to check whether or not a fiber link can simply transmit light.  It is not a laser, so it is not powerful enough to find fiber breaks but it does provide an inexpensive solution for quick continuity tests on fiber runs under 2 Km.  Included 2.5mm, 1.25mm and MT-RJ adapters provide compatibility with the most common connector styles.

## TruView

**PSF Series** Continuity Testers

The PSF22 continuity tester from TrueView offers quick continuity inspection of patch cords, fiber links and cable reels up to 2000 meters in length. The PSF22 pocket light source provides a brilliant, pre-focused white light that is easily detected. The unique ferrule grip design will center and securely hold any ST/SC/FC connector style with no special adapters required. The PSF-LC continuity tester is also available for inspecting LC cables.

### Ordering Information

| Part Number | Manufacturer | Description |
| --- | --- | --- |
| CCT 2001 | Miller | Continuity Tester with 1.25mm, 2.5mm and MT-RJ Style Adapters Included |
| PSF22 | TrueView | 2.5mm Continuity Tester |
| PSF-LC | TrueView | LC Continuity Tester |

# Noyes Optical Fiber Identifiers

Noyes Optical Fiber Identifiers are rugged, handheld, and easy-to-use fiber optic test instruments designed to detect optical signals transmitted through a single-mode fiber without disrupting traffic. During installation, maintenance, rerouting, or restoration; it is often necessary to isolate a specific fiber. By simply clamping an Optical Fiber Identifier onto a gently bent fiber, the unit will use the minute amount of light loss through the buffer/jacket to perform its function.

All models are equipped with a unique two-position head design configured to work with several different fiber types and constructions in seconds, without tools or adjustments. When testing coated fibers, the slim design allows easier access on a splice tray where the amount of work space is limited. The clamping trigger is ergonomically designed to fit the natural motion of the operator's hand. A high impact molded plastic case makes these models suitable for use outside plant or in the central office.

## OFI200D

The OFI 200D Identifier runs on 2 x AA batteries and can perform thousands of tests before replacement is necessary. By simply clamping the OFI200D onto a gently bent fiber, the unit will indicate if there is [No Signal], [Tone], or [Traffic] and identify signal direction.

## OFI400

The OFI 400 model Identifier is the next generation of Noyes Optical Fiber Identifiers. It has all the features of the OFI 200 model plus easy-to-read LCD display with Backlight, multiple [TONE] signal detection (270 Hz, 330 Hz, 1 kHz, or 2 kHz), power saving feature, and [Set Reference] feature. The OFI 400 model also measures and displays fiber core power or relative power on an LCD display.

## OFI-FTTx

The OFI-FTTx is a rugged, hand-held optical fiber identifier designed to identify the presence or absence of an active Optical Network Terminal (ONT) on FTTx F2 fibers at the Fiber Distribution Hub (FDH). During a test, the F2 fiber does not have to be removed from service. Thus the OFI-FTTx can verify whether a splitter pigtail at the FDH is connected to an active circuit before it is disconnected for fault location or re-use. The OFI-FTTx can help verify FTTx network records and recover splitter pigtails and F2 fibers that are connected at the FDH but, in fact, are available for new customers.

When applied to a splitter pigtail at the FDH, the OFI FTTx will report either that the ONT is "Active" or "Not Detected." Time to complete each test is typically one second. The OFI-FTTx is compatible with 2 mm jumper cable containing standard single-mode fiber, such as SMF-28e ®, or bend insensitive fiber (BIF) with a 15 mm bend radius specification, such as AFL BendLite ™.

### Ordering Information

| Part Number | Description |
| --- | --- |
| OFI200D | OFI200D Optical Fiber Identifier, User's Guide and Carry Case |
| OFI400 | OFI400 Optical Fiber Identifier, User's Guide and Carry Case |
| OFI-FTTX | OFI-FTTx Optical Fiber Identifier, User's Guide and Carry Case |

TEST & INSPECTION

# Noyes Talk Sets

## FTS Series
### Fiber Optic Talk Sets

Fiber Optic Talk Sets are an inexpensive solution to meet your communication needs when testing multimode or single-mode fiber optic cables. Designed for voice communication over spare fibers, they provide full duplex, hands-free operation. Ease of use and compact size allow the operators to focus on the task at hand, rather than operating the talk set. Two talk set models are available, the FTS 1 for communication on single-mode or multimode fiber and the FTS 2 for long-range single-mode applications. The FTS 2 model includes a multiparty communication feature, which provides the connection of two talk sets at a common site to extend the range or to include three or more persons in the conversation.

### Ordering Information

| Part Number | Description |
| --- | --- |
| FTS 1-2 | FTS 1-2 1300nm Talk Set for Short Range Multimode or Single Mode |
| FTS 2-1310 | FTS 2-1310 1310nm Talk Set for Long Range Single Mode |
| FTS 2-1550 | FTS 2-1550 1550nm Talk Set for Long Range Single Mode |
| 4050-00-0111 | AC Adapter 90-26VAC/ 9VDC |
| 1300-10-0102 | Headset and Adapter for the FTS1 and FTS2 Series Talk Sets |

Includes two talk sets with carry case, headsets, protective rubber boots and user's guide.  AC adapters are available. Specify connector type (e.g. FTS2-1310-SC)

## FTS-20C
### Clip On Coupler

A clip-on coupler is available for bare fiber access where terminated ends are not available. The FTS 20C allows bi-directional communication from a center point on the fiber link or from an unterminated end. When used with a fiber talk set – such as the FTS2 – a user can access the intended talk fiber at a mid-point across the span, usually at the splice enclosure. The FTS-20C can also be used in conjunction with a Laser Source and Tone Detector to inject or detect 2 kHz test tones. It works at 1310, 1550, or 1625 nm. Coupling efficiency is approximately 18 dB.

### Ordering Information

| Part Number | Description |
| --- | --- |
| 8000-10-0900 | FTS-20C Clip-On Coupler |

**TEST & INSPECTION**

# Noyes Variable Attenuators



## VOA5 Series

### Single Mode & Multimode Variable Attenuators

The VOA5-MM (multimode) and VOA5-SM (single-mode) are hand-held, field-rugged variable optical attenuators suited for a wide range of fiber link certification and production test applications. The VOA5 can be operated under local control (front panel keypad) or from a PC via a serial link using the supplied PC software. The VOA5 offers high bi-directional return loss and will maintain the set attenuation level when the unit is powered down.

The VOA5 is powered by (2) AA alkaline batteries or an AC power adapter. A NiCad rechargeable battery pack is an option.

### Features & Benefits

- Multimode and single-mode models
- Hand-held (0.55 kg, 1.22 lb)
- High speed (0 to 60 dB < 3 s)
- Low insertion loss (< 2 dB, single-mode)
- Remote (SCPI) control via serial port
- LabVIEW® drivers provided
- AA Alkaline, NiCad, or AC powering
- Long battery life (> 16 hours)



## SVA1

### Single Mode Variable Attenuator

The SVA 1 Single-mode Variable Attenuator advances fiber optic field testing by offering superior performance in a low cost hand-held package. Utilizing a simplified, industry accepted attenuation technique, the innovative design of the SVA 1 offers superior resolution across the entire 60 dB dynamic range.

Intended for field testing during installation, new equipment turn-ups, or for performing routine maintenance, the SVA 1 is a complete, easy to use attenuator. Its unique features allow bi-directional signal transmission with no loss penalty.

The SVA 1 is available with a variety of connectors and reflectance options to better than 60 dB. With only two adjustments, COARSE and FINE, the SVA 1 is simple to understand and operate. The SVA 1 is suited for all singlemode applications including Telco, LANs, WANs, Video, and CATV.
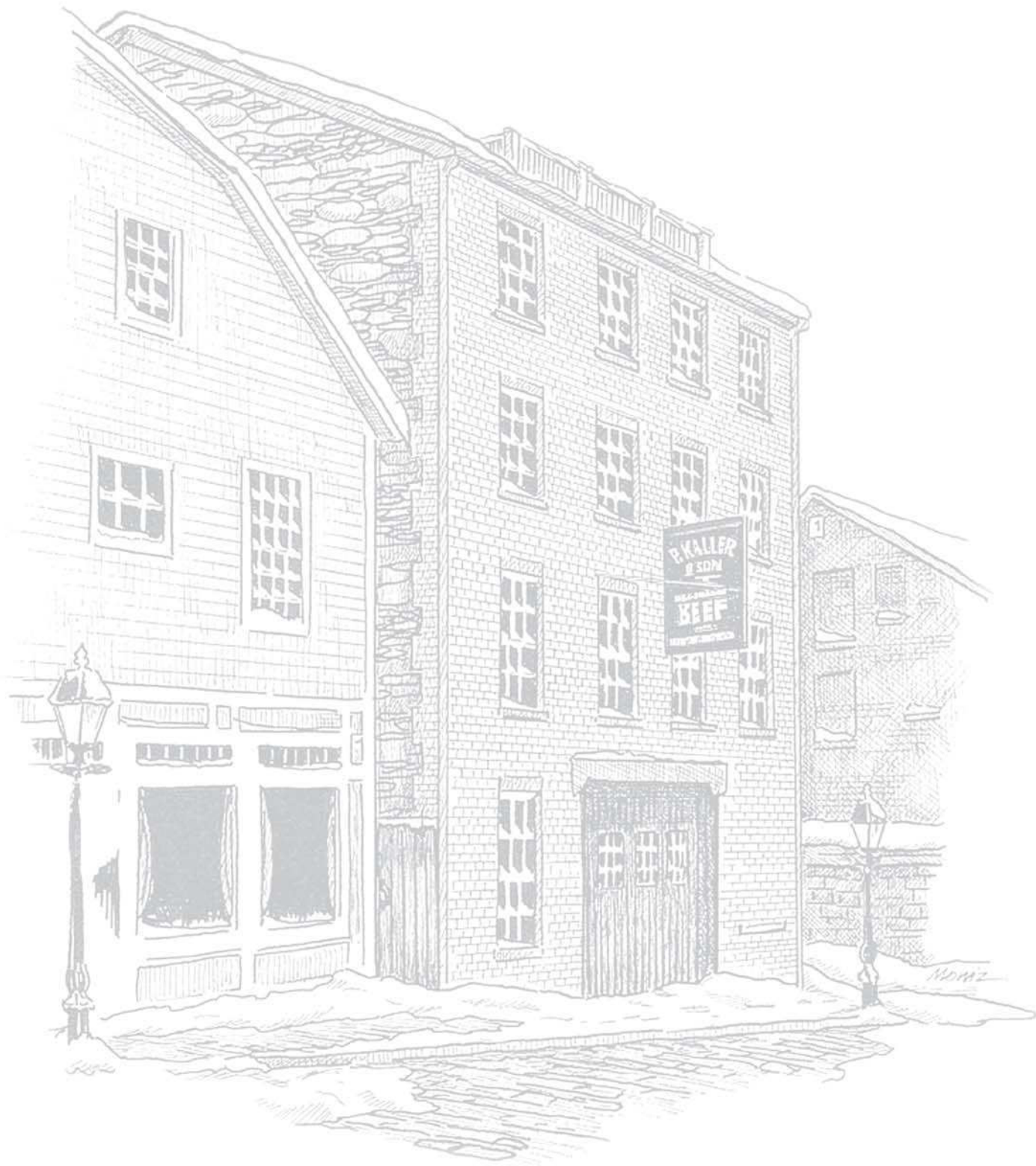
### Features & Benefits

- 1310 and 1550 nm single-mode
- Lightweight
- Coarse and fine adjustments
- 60 dB dynamic range
- Better than 60 dB isolation available
- FC, SC, or ST Style Outputs
- Low insertion loss

### Ordering Information

| Part Number | Description |
|---|---|
| SVA 1 | SVA 1 Single Mode Variable Optical Attenuator |
| VOA5 SM | VOA5 Single Mode Variable Optical Attenuator |
| VOA5 MM | VOA5 Multimode Variable Optical Attenuator |
| 4050-00-0112PR | 90-264 VAC/12VDC AC Adapter for VOA5 Series Attenuators |

All models Include carry case and instruction card. * When ordering, specify connector type at end of model number (e.g. SVA1-FC). APC termination for the SVA1 is available for an additional charge.

**TEST & INSPECTION**

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